THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION

Vol. 32, No. 6 | 430 N. Michigan Ave., Chicago, Ill. | February, 1933

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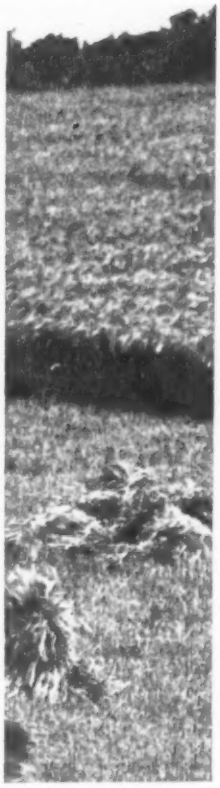

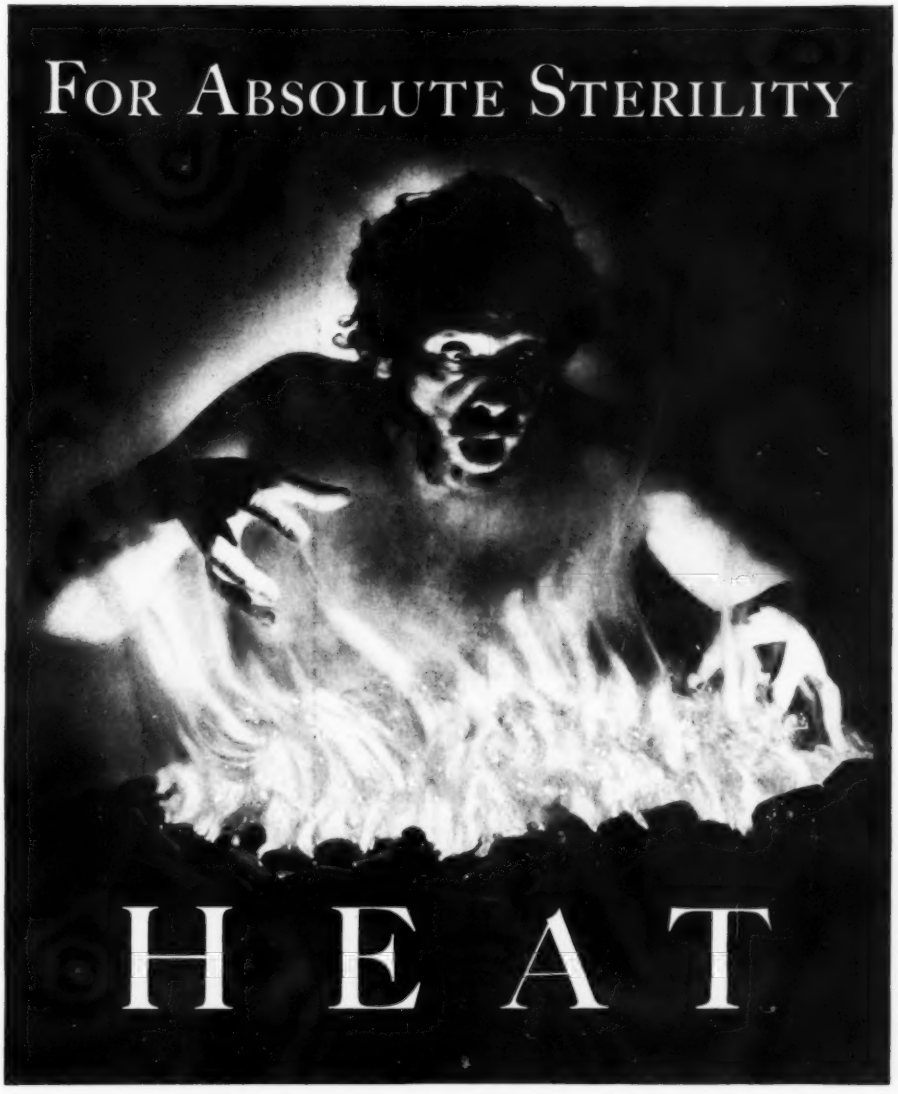

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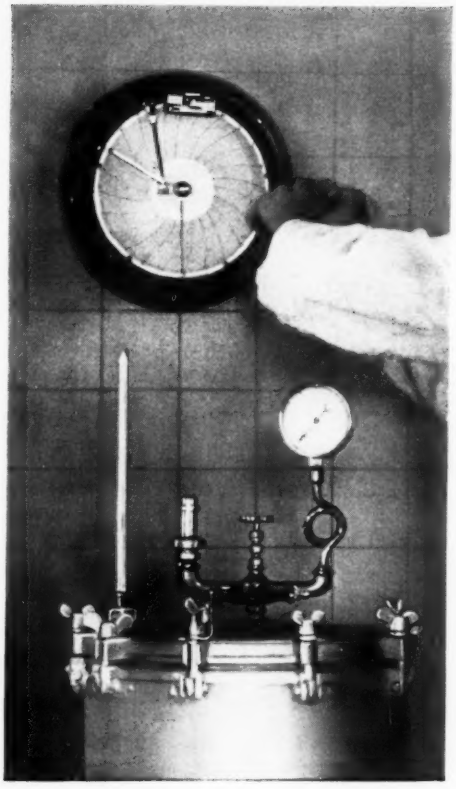

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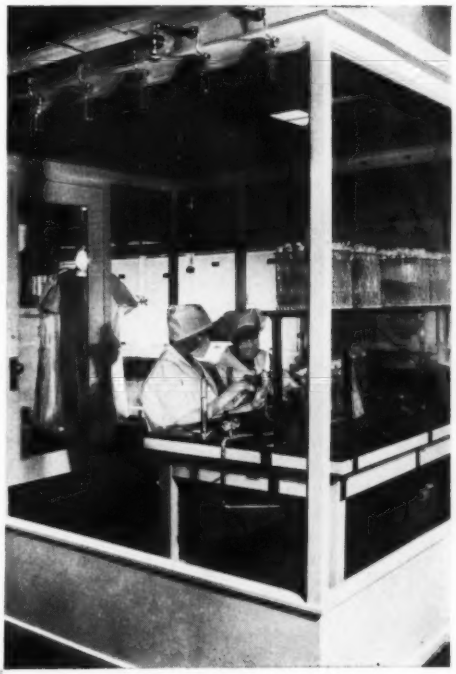

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* Meleney, Frank L. and Chatfield, Mabel: "The Sterility of Catgut in Relation to Hospital Infections," Surgery, Gynecology and Obstetrics, Feb. 15, 1931, 430.

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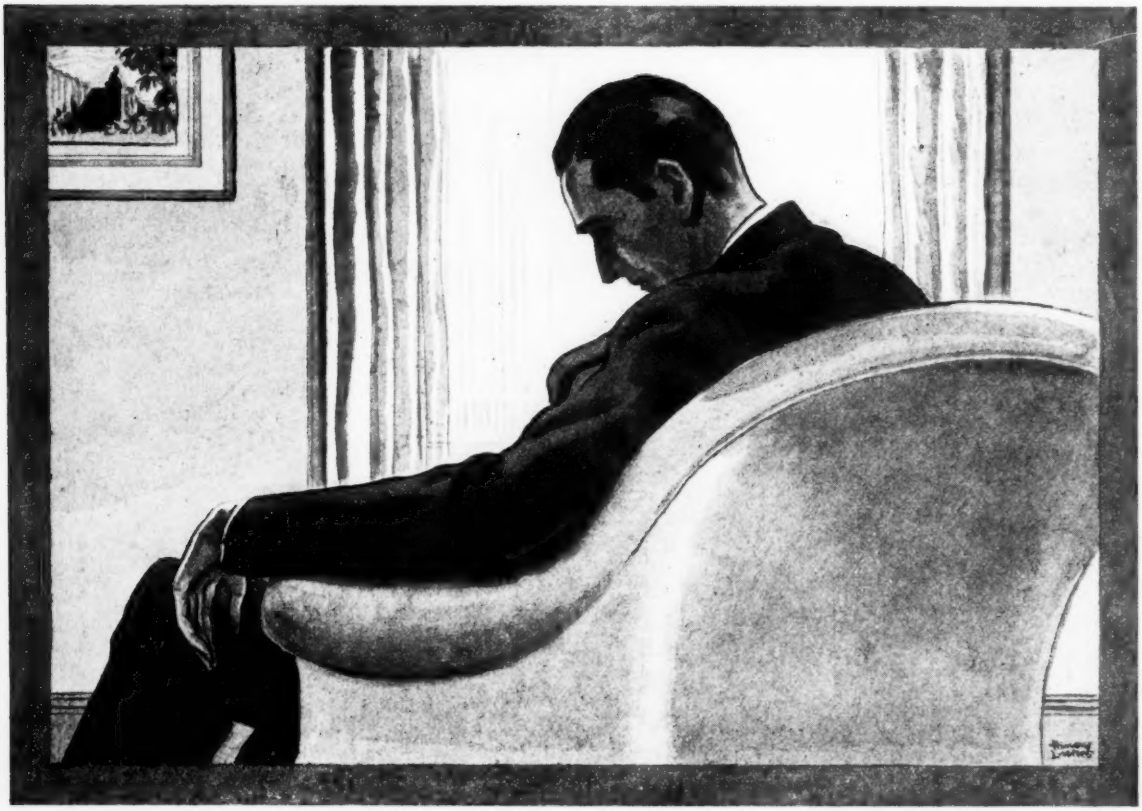

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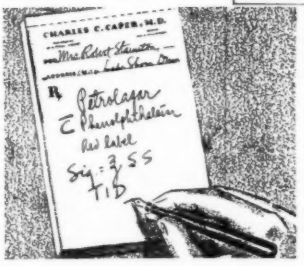

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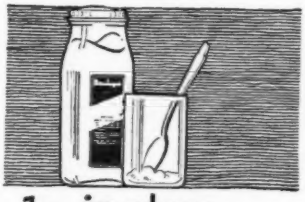
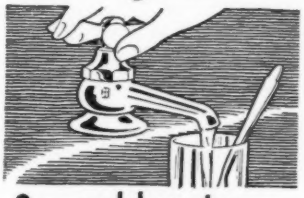
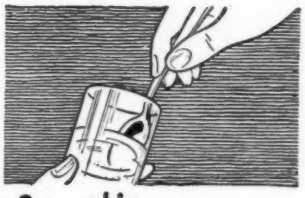


1– in glass . .



2– add water . .



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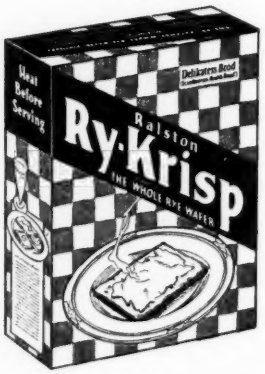

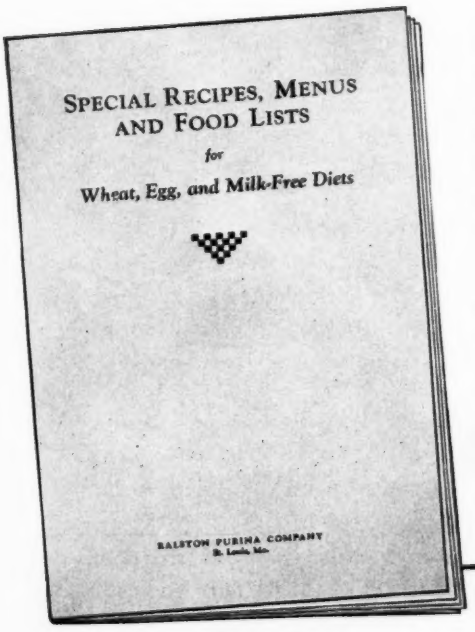

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HESS, A. F., and LEWIS, J. M.
Jour. A. M. A., Vol. 99, No. 8, Aug. 20, 1932

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7. POTENT - Each tablet contains not less than 685 Vitamin A Units (ophthalmic and weight) and not less than 400 Vitamin D Units (A.D.M.A.).

8. CANDY - Taste just like candy. Children love them. Even gravidae accept them.

9. DOSAGE - A dose is always a dose—a tablet a half teaspoonful.

10. INFANTS - Easy to give. Simply crush required number of tablets in day's formula or in orange juice. No anorexia—no oily nipples or bottles.

11. TOXICITY - None found or recorded.

12. ECONOMY - Low patient cost; certainty of a potent product and continuance of dosage by patients who object to oil.

Compare!

Consider these advantages! Compare them with other vitamin preparations. Prescribe White's Cod Liver Oil Concentrate Tablets wherever you would cod liver oil with equal certainty and better patient acceptance. White's have all the vitamin activity found in cod liver oil without the bulk or disagreeable taste.

J.A.O.-2

NEW AID

TO OSTEOPATHIC TREATMENT ★

★ You can prescribe the Podiatread Shoe with absolute confidence in its orthopedic correctness. Its patented moulded leather saddle supports the foot at the longitudinal arch—transferring the weight to the outer tread as nature intended.

With the accumulating evidence that arthritis, sciatica, neuritis and other serious physical ailments can originate in ailing feet, osteopaths are called upon anew to prescribe the proper shoes for their patients.

No shoe in recent years has been more intelligently designed for osteopathic use than the Treadeasy Podiatread, illustrated on this page.

Its patented arch-supporting saddle has a major corrective influence in relieving pressure on the posterior tibial nerve and firmly yet moderately supports the inner longitudinal arch at its apex. A light, spring-steel shank also gives flexible support to the longitudinal arch. The metatarsal arch is supported by a resilient cushion. Scientifically correct heel and instep hold the foot comfortably but firmly in proper position in the shoe.

Altogether, an exceptional shoe . . . with stores in practically every large city to place Treadeasy service at the immediate command of the osteopath.

May we send you complete literature with a copy of our new brochure—"Completing Your Service to the Patient."

The Podiatread proves that essential corrective features and attractiveness can be embodied in one shoe.

Treadeasy
REG. U.S. PAT. OFF.

PODIATREAD

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AGAROL

FOR CONSTIPATION

"FOR better results"—is the watchword in producing Agarol. A mineral oil emulsion of highest grade ingredients obtainable, prepared with the efficiency of seasoned experience, cannot but be dependable. Its effectiveness is a reliable aid in teaching the intestinal tract to "keep hours," its exceptional palatability makes the taking of medicine easy and reasonably pleasant. §Agarol is the original mineral oil and agar-agar emulsion with phenolphthalein. It contains no artificial flavoring, no sugar, alcohol, or alkali. Trial supply gladly sent on request.

WILLIAM R. WARNER & CO. INC. NEW YORK, N. Y.

Sole Agents for Canada: WM. R. WARNER, Ltd., 727 King St., W., Toronto, Ontario

A delicious food-drink
for *high-calory* feeding

Fortified by Vitamin D, Licensed by the Wisconsin Alumni Research Foundation

COCOMALT in milk meets the requirements for a delicious, high-calory liquid food. It is especially recommended during pregnancy and lactation, during illness and convalescence—and for malnourished, underweight children.

For Cocomalt, prepared according to label directions, adds 110 extra calories to a glass of milk—*increasing its food-energy value more than 70%*. This tempting, chocolate flavor food-drink provides *extra* proteins, carbohydrates and minerals (calcium and phosphorus).

Cocomalt is licensed by the Wisconsin Alumni Research Foundation, under Steenbock Patent No. 1,680,818. It contains not less than 30 Steenbock (300 ADMA) units of Vitamin D per ounce—the amount used to make one glass or cup of this delicious, nourishing food-drink.

Comes in powder form, easy to mix with milk. It is equally delicious served HOT or COLD. Children love it—convalescents enjoy it. Easily digested—quickly assimilated. Comes in ½-lb., 1-lb. and special 5-lb. family or hospital size, at grocers and drug stores. High in food value—low in cost.

Free to Osteopathic Physicians

We will send a trial can of Cocomalt *free* to any osteopathic physician requesting it. Just mail this coupon.

Cocomalt

Cocomalt is a scientific food concentrate of selected cocoa, sucrose, skimmed milk, malt extract, vanilla flavoring and added Vitamin D.

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Please send me, without charge, a full-sized can of Cocomalt.

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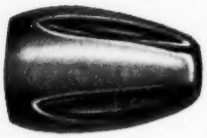

SIDE VIEW

END VIEW

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● The nasal guard on DeVilbiss Atomizers with which you have been familiar for years, has been redesigned to provide air vents. This new ventilated nasal guard obviates any possibility of excess pressure in the nasal cavities during prescribed self treatment. The low pressure in DeVilbiss Atomizers has always been a feature which appealed to the physician and this new nasal guard eliminates any possibility of undesirable results in the hands of the patient. The medicament is applied safely, gently and thoroughly. The new DeVilbiss Catalog of Professional Instruments contains a full description of this latest DeVilbiss improvement. It will be gladly sent you on request.

DeVilbiss

The DeVilbiss Company, Toledo, Ohio, headquarters for atomizers and vaporizers for professional and home use

IN THE TREATMENT OF ~

COLDS

. . . RECENT work on influenza, the common cold, pneumonia and catarrhal fevers in general has served to focus attention on the value of alkalinizing the patient as an important part of treatment.

During the influenza epidemic, patients so alkalinized showed a low mortality rate and, in the main, a quick convalescence to final recovery.

BiSoDoL

affords a rational method of alkalinizing your patients.

Send FOR SAMPLES AND LITERATURE

THE BiSoDoL CoMPANY
NEW HAVEN, CONN.

THE PENDULUM

SWINGS BACK

For several years poultices and plasters have been largely out of favor with the doctor. But now they are "coming back," because the physician is finding in a certain type of plaster or emplastrum a means of concentrating his medicinal action over the affected area.

This is effected by making the cataplasm the vehicle for active medicinal agents which are quickly absorbed through the skin—so the term "Cataplasm Plus" has been applied to

NUMOTIZINE

because it is a cataplasm of kaolin which contains guaiacol and beechwood creosote.

Applied to the skin, these medicinal agents with a well known action are absorbed over a period of time so that the patient has the benefit of prolonged action without gastric disturbance or nausea. The drug effect is not wasted, but is concentrated topically, over the area being treated.

The clinical efficacy of Numotizine is swinging back the pendulum, and bringing the emplastrum into favor for the relief of local pain and congestion, as well as for the reduction of fever temperature.

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DEPT. A.O.A.-2

SAL HEPATICA IN THE TOXEMIAS

OSTEOPATHIC manipulation to correct either a bony or muscular lesion is demonstrated as a more effective treatment to the patient if the intestinal tract has undergone a complete cleansing, so that it is not overloaded with toxins.

Sal Hepatica is looked upon favorably by many osteopathic physicians as a logical adjunct to their therapy. It is efficient, is easily tolerated by the patient and is obtainable everywhere. The coupon below will bring you a liberal sample for clinical use.

SAL HEPATICA

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Journal of Osteopathy

KIRKSVILLE, MISSOURI

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Osteopathic finger surgery and diathermy; reconstructive surgery and sinus displacement method for deafness (acquired or congenital), hay fever, asthma, glaucoma, iritis, sinusitis, laryngitis, cataracts, and other diseases of the eye, ear, nose and throat; as demonstrated at A. O. A. Convention, Detroit, July, 1932.

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Twenty-one years' successful practice in the treatment of deafness.

Referred patients returned to general practitioner for after care.

Write for Free Booklet.

EDWARDS INSTITUTE FOR THE DEAF

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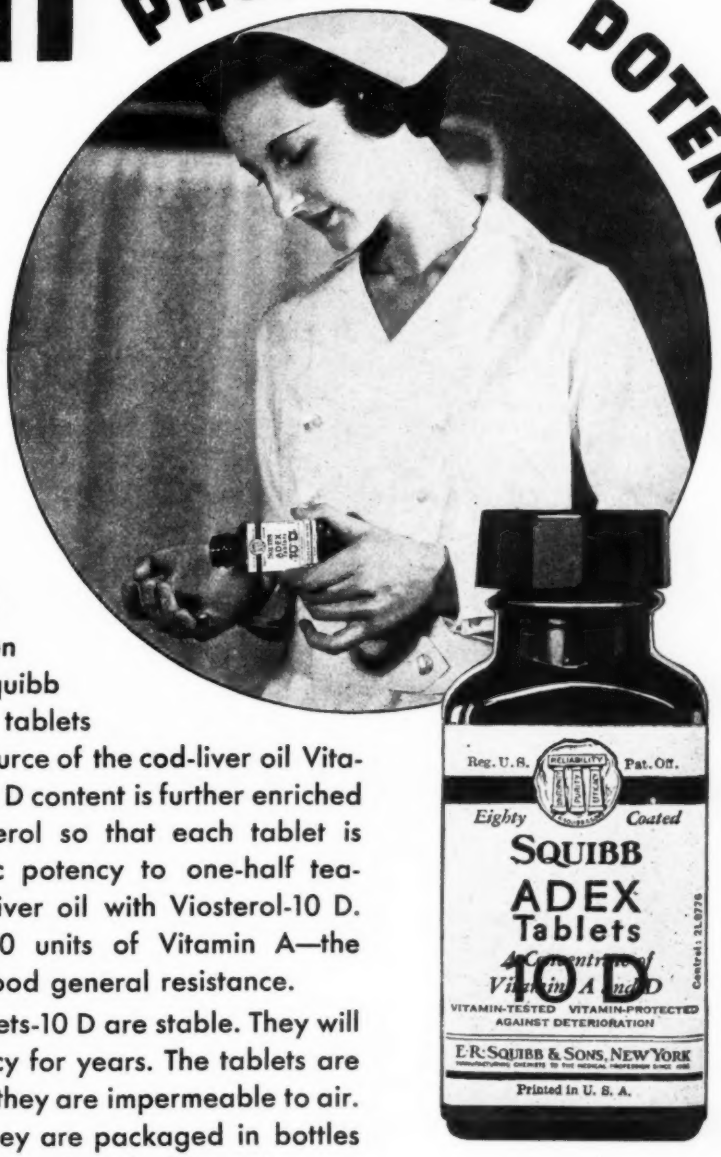

MANY people are deprived of an adequate amount of Vitamins A and D because of their aversion to oil. For them, suggest Squibb Adex Tablets-10 D. These tablets provide a dependable source of the cod-liver oil Vitamins A and D. The Vitamin D content is further enriched by the addition of Viosterol so that each tablet is equivalent in anti-rachitic potency to one-half teaspoonful of Squibb cod-liver oil with Viosterol-10 D. Each tablet supplies 1000 units of Vitamin A—the factor needed to build good general resistance.

And Squibb Adex Tablets-10 D are stable. They will maintain their high potency for years. The tablets are coated in such a way that they are impermeable to air. As a further protection they are packaged in bottles containing CO_2 and sealed with a double seal.

Squibb Adex Tablets-10 D (chocolate-coated) are palatable, easy to swallow and pleasant to take. They are readily assimilable making their vitamin content at once available to the patient.

SQUIBB ADEX TABLETS-10 D

THE VITAMINS OF COD-LIVER OIL IN CONVENIENT NEW FORM

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Aspergum
The convenient way to take
ASPIRIN

HEALTH PRODUCTS
CORPORATION
NEWARK, N. J.

When DEGLUTITION is difficult

After Tonsillectomies, or other laryngological interventions—when swallowing is a painful effort—yet the patient should have nourishment, have you tried prescribing

ASPERGUM
DILLARD

one half hour before meal time? One nugget chewed slowly for 5 minutes followed by another in 5 minutes will prepare the patient to eat a meal in comfort.

The analgesic effect of the aspirin-laden saliva lavage to relieve the pain and muscle stiffness—the stimulation of the taste buds with the orange flavor which excites appetite, accomplish the desired results. The systemic action of the aspirin once absorbed, relaxes taut nerves and temporarily eases general malaise.

Send for a sample to try it.

HEALTH PRODUCTS CORP., J.A.O. 2
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You need not hesitate to prescribe Ortho-Gynol for vaginal hygiene (with or without pessary); also for local treatment of Vaginitis and Leukorrhea.

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Write for special offer to physicians and important new treatise, "Effective Inhalation Therapy".

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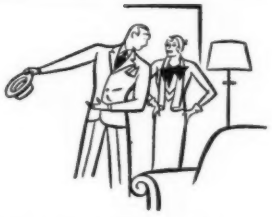

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Euphagin
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EUPHAGIN is particularly valuable in ELECTROCOAGULATION of TONSILS.

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There is one rational way to do this, and that is to promote the growth of the benign organisms — b. acidophilus and b. bifidus — Nature's method of changing the intestinal flora.

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Lacto-Dextrin does this, because it provides the right carbohydrate foods to promote rapidly the growth of the normal, protective germs in the colon.

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Where the patient has a toxic condition of the bowel, prescribe

BATTLE CREEK LACTO-DEXTRIN

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Lacto-Dextrin is a food, not a drug. It is easy to take — can be prescribed for any patient where the diet is not restricted in carbohydrates.

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Send me, without obligation, literature and trial tin of Battle Creek Lacto-Dextrin.

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★ AN
★ ANTACID

One glass with one to two teaspoonfuls milk of magnesia.

This simple prescription is one of the most effective antacids available.

Alkaline action and palatability are both enhanced by the natural alkaline and refreshing qualities of sparkling White Rock. This combination is particularly valuable for expectant mothers and in cases where alkalinization must be secured without risk of nausea.

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*95% have dental caries.

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The Gerber Products provide the physician with finished products that are absolutely uniform, safe, thoroughly cooked, strained to the ideal consistency for baby and are unseasoned. Because of this they enable the infant feeding prescription to be met with laboratory exactness in any community. They make it possible for a physician to prescribe feeding schedules of known values that can be accurately and easily followed by a mother in the home. The mother needs only to warm, season and serve as her physician directs.

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3. Neither such schedules nor the advice of friends or family is a fair substitute. Only a direct study of each baby's individual diet requirements — made by the baby's personal physician — should determine the feeding schedules.

No Gerber advertisement ever carries feeding tables or feeding formulas. Every Gerber advertisement, and the label on every Gerber can urges the mother to rely only on her physician and to follow only his advice as to when, how much, and what she should feed her own individual baby.

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Our new Cereal product has received a gratifying reception. If you have not already examined a sample of Gerber's Strained Cereal, we will gladly send you one. Just fill out coupon below and mail.

Gerber's
STRAINED PRODUCTS

Gerber Products Company,
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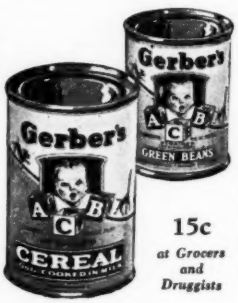

15c
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Strained — Beets — Carrots — Peas — Green Beans — Prunes — Spinach — Vegetable Soup — Tomatoes — *4½ oz. cans*
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THE PORT of ENTRY

KEEPING the nose clean undoubtedly wards off trouble for, normally functioning, the nose acts somewhat as a filter for the dust and germ burdened air of modern life; but when occluded with mucous deposit, it serves as a culture tube for germ propagation.

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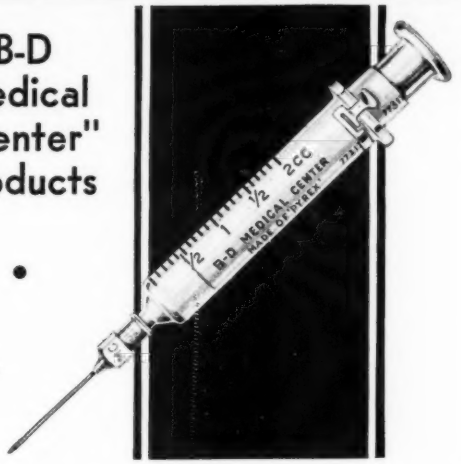
The ALKALOL Co.
TAUNTON, MASS.

B-D "Medical Center" Products



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of hyper-chrome (rust-resisting) steel, have square, easily handled hubs and improved points which make for easy penetration and reduction of seepage. Gauge numbers are stamped on hubs—a great convenience. Low-priced, rust-resisting needles.

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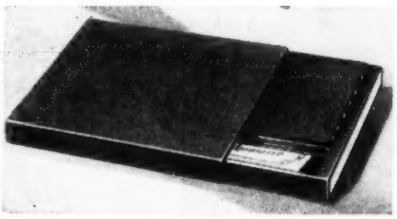
Professional Package of B-D Medical Center Clinicals
A handy pocket carton with sliding cover and protective inside flap. Contains six Medical Center Thermometers, $5.25.



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The value of Milk of Magnesia in medical practice has been established. And for over 60 years Phillips' has been considered the ultimate in purity and efficiency where milk of magnesia has been used.

We now offer Phillips' Milk of Magnesia in tablet form—each tablet representing the equivalent of a teaspoonful of the liquid. This amount will neutralize as much acid as three teaspoonfuls of a saturated solution of sodium bicarbonate or six ounces of lime water.

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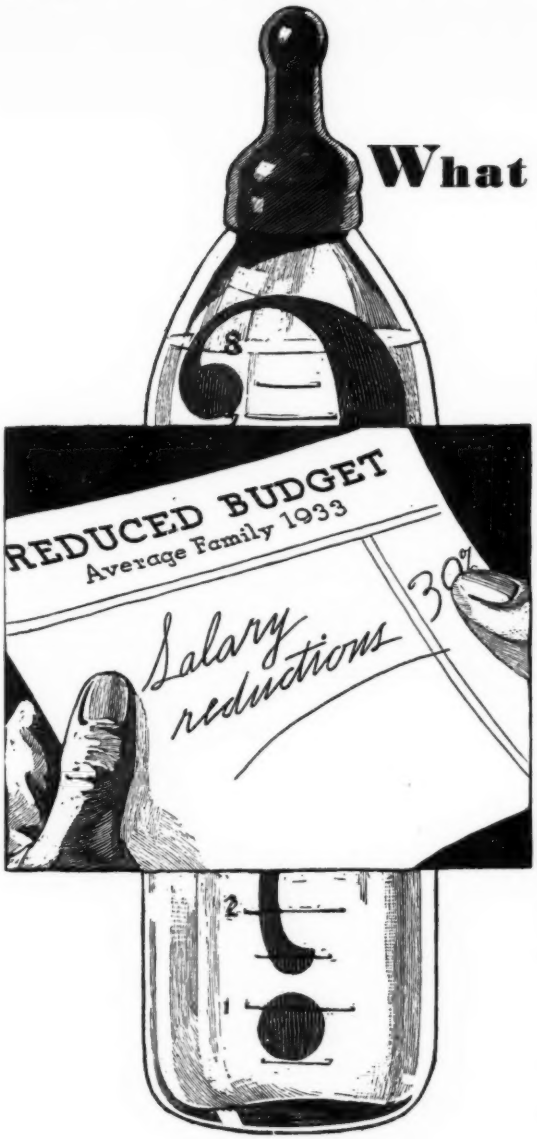

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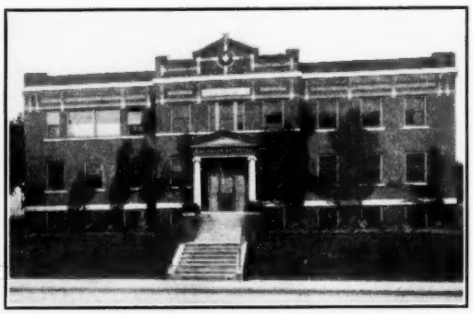

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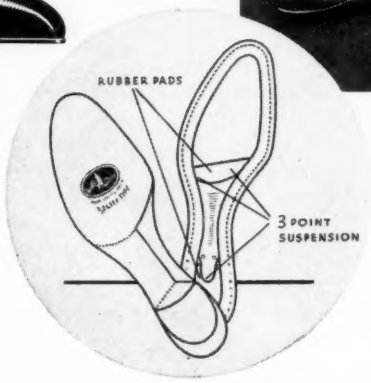

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Studies of the Intervertebral Disks

Diagnosis and Treatment of Edematous Fibrocartilages

LOUISA BURNS, M.S., D.O.
Baldwin Park, Calif.

The Diagnosis and Treatment of Edematous Fibrocartilages—

The findings here reported apply to fibrocartilages anywhere, but the intervertebral disks have been studied with especial attention.

The pathogenesis of the edematous disk has been described elsewhere. The presence of edematous disk should be suspected in all cases of spinal curvature and of recurrent and variable spinal lesions, when other symptoms of acidosis are present, and when there is found a peculiar, soft, boggy, edematous, palpable quality in the periarticular tissues.

A bony lesion of typical immobility may be present in neighboring vertebræ, or there may be no palpable rigidity. The edematous disk may be associated with a certain degree of rigidity, but the sensation produced in the hands of the osteopathic physician, as he tries to move the joint slowly, is that of an inert resistance, a peculiar, boggy, putty-like, reluctant heaviness which is quite characteristic. This impassive quality of diminished mobility may be partly due to edema of the disk, partly to edema of articular surfaces and partly to edema of the tissues around the lesion. It is not possible to differentiate, in palpation, these various factors. The quality is easily distinguished from the sharp, harsh, brittle palpable quality perceived by the same manipulations in a lesion present for several years, in which the tissues surrounding the disk show the effects of sclerosis, the articular surfaces are thinned and the disk itself is inspissated and probably fibrous. In laboratory animals, the recognition of the edematous disk by palpation may be followed by the death of the animal and immediate postmortem examination of the affected tissues. It can only be surmised that the same palpable qualities in the human tissues are associated with the same quality of disk. The edematous disk has, however, been found postmortem in human subjects and it has been possible to associate antemortem examination with the postmortem findings in one case.

Edema of the periarticular tissues is usually, but not always, associated with edema of the disk. Edema of the periarticular tissues usually persists, in some degree, as long as the lesion remains present. Edema of the disk, on the other hand, is superseded, in the course of some months, by diminished acidity of the joint tissues, by desiccation of the disk, and by increasing rigidity of the fibrous type.

The edematous nucleus pulposus exerts increased pressure upon the surfaces of the centrums of the vertebræ. The associated loss of elasticity of the peripheral fibrous part of the disk is a factor in causing lesions upon relatively slight spinal tension or strain. This is the condition often present in neurotic persons with a tendency to mild anemia, mild malnutrition, inefficient circulation, inefficient cardiac activity, and other symptoms of mild acidosis. Such individuals usually show rather soft connective tissues generally. It is usually easy to correct the lesions found at any time, but a new group of lesions may be found at the next examination, or the old ones may recur quickly.

The acidity of malnutrition is especially marked in children, and in these the tendency to spinal curvature is also marked. The increased pressure upon the centrums by the swollen disks, and the necessity for accommodating for the increased length of the spinal column (which may grow more rapidly than other tissues during childhood) together with the weight of the torso, all act to produce the peculiar, twisting curve found in this unhappy condition.

The treatment of edematous disk is indicated by its diagnosis. If the edema is local, it is required only to correct the lesions, and to maintain the normal vertebral relation, if necessary, by straps, supports, frequent resting periods, and such measures as may be found practicable in each case.

More commonly, a locally increased acidosis is found with a general acidosis also present. The cause of general or systemic acidosis must be found and, if possible, removed. Certain vertebral lesions tend to certain form of acidosis. The treatment given by Dr. Hugh W. Conklin in the acidosis of

fasting patients may be employed in these cases with excellent results. The tendency of lesions to recur must be kept in mind, and treatment timed accordingly.

The administration of alkaline foods is necessary when the diet has been lacking in these foods. More commonly it is necessary only to provide an adequate carbon dioxide elimination, by means of better respiratory habits and more adequate circulatory conditions.

Patients with secondary anemia tend to acidosis because they are unable to provide an adequate supply of oxygen or an adequate removal of carbon dioxide. The treatment of the anemia is important in the treatment of the acidosis, and thus of the edematous disk.

Malnutrition tends to acidosis in adults, and even more in children. This must be treated according to the conditions found. In all these conditions, it is important to maintain as normal a spinal structure as possible, by means of treatments at proper intervals, proper periods of rest, and adequate supports when these seem advisable.

Edematous disk usually yields promptly to the relief of the local or systemic acidosis, with return to the normal strength of the spinal tissues, and cessation of further need for frequent treatment. It is, perhaps, hardly necessary to add that, after any considerable period of time, the tissues around the lesion may become so lax that complete restoration to normal strength may never occur. In such cases, some adequate permanent support, such as habitual strapping, or wearing of a girdle or belt, may become advisable. Ultimately, if the support is properly planned, the tissues may regain strength enough to warrant its omission.

A Review of Certain Pertinent Embryological Factors

A Review of Certain Pertinent Embryological Factors

The intervertebral fibrocartilages present several interesting developmental peculiarities. The central region, the nucleus pulposus, contains the remnants of a part of the notochord.

The notochord appears with the mesoderm. It consists of a rod of cells extending from the dorsal lip of the blastophore, where it is first seen, to the site of the future pituitary body. In earlier studies, the notochord was said to be derived from the ectodermal cells turned inward with the process of gastrulation. In slides prepared and reported by Huber, Streeter, and other recent investigators, the cells which form the notochord have been found to be mesodermic in origin, and to be associated with the ectodermal cells only by following the line of gastrulation in development. This view accounts for the definitely mesodermal quality of the cells of the adult nucleus pulposus.

Masses of the cells of the sclerotomes surround the notochord and share in segmentation. The notochordal cells which are surrounded by the masses of the sclerotomes seem to be somewhat protected thereby, while the notochordal cells near the upper and lower surfaces of the sclerotomes undergo relative atrophy, and disappear from the later embryonic structures. The manner in which these protected notochordal cells come to occupy the position within the adult intervertebral fibrocartilages is associated with the rearrangement of the vertebral centrum, the intersegmental arteries, and the spinal nerves.

In the primitive segments, the spinal nerve occupies a region about level with the center of the sclerotome from which is to be developed the vertebral centrum, and the intersegmental arteries lie between neighboring sclerotomes. Each sclerotome differentiates into a dense caudad portion and a cephalad region of looser structure. From the dense portion outgrow masses of similar tissue which form the blastema of the neural arch, the costal process, and the body of the vertebra. The cephalad portion of less dense structure unites with the caudad portion of its neighbor to complete the structure of the vertebra. As a result of this rearrangement, the spinal nerves come to occupy the intervertebral spaces. The arteries, once intersegmental, then assume a central position in relation to the vertebral centrums.

Certain of the cells which originally formed the central part of each segment of the notochord ultimately are left between the vertebral centrums, and these develop into the intervertebral disks. The centrums become altogether mesodermic, while the notochordal cells of that region are completely superseded. The intervertebral remnants of the notochord, at one time found within and apparently protected by the sclerotomes, thus assume a position within the intervertebral fibrocartilages as the adult nucleus pulposus. The cells develop a semigelatinous, intercellular material, and fatty globules are formed within this. These fatty globules give the opalescent, milky or yellowish tinge to the nucleus pulposus, the exact tint being due to their number and to the color of the fat characteristic of the individual. The reaction of the nucleus pulposus, like the reaction of the synovial fluids, is $p^H 0.02$ to $p^H 0.05$ higher than the blood plasma of the animal from which the intervertebral fibrocartilages are taken.

From the mesenchymal cells of the sclerotomes are derived the delicate trabeculæ of the nucleus pulposus, with the few minute cells associated with these fibers. The fibrous portion of the disk is, also, derived from the mesenchymal cells of the sclerotome. The manner in which these fibers are developed does not differ from the development of white fibrous and yellow elastic tissues elsewhere in the body. Peripheral areas of the nucleus pulposus and neighboring parts of the fibrous portion of the disk contain small groups of small cells, enclosed in a delicate capsule and closely rounded, which do not differ perceptibly from the cells of cartilage elsewhere in the body, either in embryonic or adult structure.

Within the nucleus pulposus, are rounded individual cells with branching protoplasm, derived

from the cells of the notochord and retaining some resemblance to them during life.

The slides from which these studies were made include a number prepared by Dr. Helen Gibbon, in the laboratories of The A. T. Still Research Institute at Sunny Slope.

Osteopathic Pathology in the Light of Investigations by the A. T. Still Research Institute

Osteopathic Pathology in the Light of Investigations by the A. T. Still Research Institute—

The intervertebral fibrocartilages are not especially subject to ordinary causes of disease, and they are resistant to several conditions which often affect bone tissue seriously.

Pressure conditions affecting the intervertebral disks include aneurysms, tumors, and certain rare deformities. Constant pressures, even though slight and produced by soft substances, erode and destroy vertebræ, as well as other bones, with rather surprising celerity. The intervertebral fibrocartilages yield to such pressures somewhat more slowly, but they, also, finally undergo atrophy.

Infectious agents, such as the bacilli of tuberculosis, usually affect the centrums near their surfaces first. This is, no doubt, because of circulatory conditions in these areas. The blood itself does not reach the fibrocartilages. The lymph and tissue fluids, which alone supply nutirtion to the disks, may carry bacteria, but this is less apt to occur at so great a distance from the blood capillaries. Hence the fibrocartilages often appear to be normal in x-ray plates showing marked destruction of the vertebræ themselves. However, the disks do succumb to tubercular and other infections, as do other connective tissues of the body, and in almost or quite the same manner. The pathogenesis of the infections is well discussed in many ordinary textbooks of pathology, and need not require further attention at this time.

A brief review of the structure of the intervertebral disks, or fibrocartilages, may provide some basis for an explanation of this resistance.

Each cartilage consists of two parts. The central mass, the nucleus pulposus, is globular in form in the erect spinal column, semifluid, opalescent, milky or yellowish in color, and kept under considerable pressure within the fibrous peripheral portion. The cells of the nucleus pulposus are derived from the notochord, and are the sole remnants of that structure within the adult human body. The reaction of its fluid portion is somewhat more alkaline than the blood plasma, with a p^H0.02 to 0.05 higher than is the blood plasma of the same animal. The nucleus pulposus is highly hygroscopic, and this quality is considerably increased by relatively slight variations in the reaction of the blood plasma from which its own tissue fluids are derived. This variation in hygroscopic quality is an important factor in the pathology of the vertebral lesion.

The peripheral portion of the intervertebral fibrocartilage consists of white fibrous and yellow elastic tissue, whose fibers lie embedded in a cartilaginous matrix. Near the nucleus pulposus, this matrix is thinner with no sharp line of division between the matrix of the fibrous tissue and the semigelatinous fluid in which the cells of the nucleus pulposus are embedded. Typical cartilage cells are present in the cartilaginous portions of the disk, and a few are found in the peripheral areas of the nucleus pulposus. The yellow elastic tissue is most abundant near the extreme periphery of the fibrocartilage. This relation is important in maintaining the elasticity of the structure.

Synovial membranes are occasionally found in the spinal column. These are usually present at the junction of the centrum with fibrocartilage or within the fibrocartilage very near the surface of the centrum and parallel with that surface. A minute amount of synovial fluid is present and the synovial membrane is identical with that of other fibrous synovial membranes. A human spine prepared by Dr. Homer Tweed showed such synovial cavity, with a typical membrane.

The intervertebral fibrocartilages have no blood vessels. They receive their nutritive lymph from the capillaries of the adjacent vertebral centrums. These vertebræ are abundantly vascular, and the blood vessels are supplied with vasomotor nerves which enter the vertebræ by way of the spaces beneath the anterior common ligament and the posterior common ligament. Changes in the tension of these ligaments, due to normal spinal movements, affect the blood vessels directly, and also by way of mechanical stimulation of the vasomotor nerves. With the immobility due to vertebral lesions, and the local edema due to such lesions, the normal variations in the tension of these ligaments does not occur.

These structural relations form a unique type of joint between the vertebral bodies, whose classification has caused some discussion. Older textbooks describe them as amphiarthroses, though the amount of movement is rather greater than is the case with other joints so classified. The structure of the nucleus pulposus, however, with its constant pressure upon the centrums, with the peripheral fibers of the disk forming a modified capsular ligament, form a joint which is almost typically an enarthrosis (ball and socket joint). Movement is permitted in every direction, except as this may be limited by surrounding structures.

The separating influence of the nucleus pulposus under pressure, the opposing influence of the peripheral fibers, and the interposition of the yellow elastic fibers, all produce a joint which is at all times, highly elastic, very strong, and with definite self-corrective tendencies in every time of stress or injury. That this corrective tendency is not unlimited, is not perfect, is indicated by the frequent persistence of vertebral strains.

Shocks, strains, and sudden pressure upon the

spinal column are, to a considerable extent, absorbed by these elastic fibrocartilages, and the yielding of the peripheral fibers to changes in the pressure of the nucleus pulposus undoubtedly often prevents serious injury to the spinal cord, the sensory and sympathetic ganglia, the nerve trunks, and other delicate structures associated with the vertebral column.

The hygroscopic quality of the nucleus pulposus has been mentioned. Changes in its water content modify the functions of the joint considerably. Changes in the reaction of the fluid of the nucleus pulposus, and in less degree of the fibrous portion of the disk, may cause imbibition or desiccation.

Experiments performed in the laboratories of the A. T. Still Research Institute showed this relation very clearly. A solution was first made which resembled the normal tissue juices of the animal whose spine was to be studied. This was prepared from the blood plasma, tissue extracts, and normal salt solution. This solution was so made as to have the same osmotic tension, alkalinity, and viscidity as the fluid portion of the nucleus pulposus of the animal being studied. The solution is called, for convenience, "normal juice." Its reactions varied slightly for different animals, and for different ages of the same species of animal, being always between p^H 7.45 and p^H 7.55.

Each animal was killed by bleeding after either chloroform anesthesia or a sharp blow upon the back of the head which caused unconsciousness. The spinal column was immediately sectioned, and the disks removed and placed in "normal juice." No change in the water content of the disk occurred. This was repeated for three each of young rabbits, old rabbits, young guinea pigs, baby guinea pigs, kittens, old guinea pigs, and puppies.

Specimens of this "normal juice" were then modified in several ways. One beaker was modified by adding to it 13 mgs. of acetone per 100 c.c., which is the amount of acetone and related bodies found in the blood of starving children by Moore. The disks swelled in this solution to approximately three times their natural size.

A second beaker was modified by the addition of 30 mgs. per 100 c.c., which is the amount of acetone found by Howland and Marriott in children with marasmus or late starvation. In this solution, the disks absorbed water rapidly, and they reached approximately three and a half times their normal size.

A third beaker was modified by the addition of hydrochloric acid until a reaction of p^H 7.2 was reached. The disk swelled as in the second test. The fourth beaker was brought to p^H 7.2 by the addition of acetic acid, with the same results.

A fifth beaker was brought to a reaction of 7.6, and a sixth beaker to a reaction of 7.7, by the addition of sodium bicarbonate. In these solutions, the nucleus pulposus absorbed a small amount of water during the first twenty-four hours, then began to lose water, until, at the end of the second day, it was smaller than the normal disk.

These tests were repeated with results identical in kind but varying in degree for one each of the young guinea pigs, rabbits, and kittens. The reactions mentioned were those found present under slightly abnormal conditions in the animals mentioned, and in human subjects.

In all these cases, the disks which had absorbed water in subalkaline solutions retained the fluid vigorously. Placing them in "normal juice" or in alkaline solutions did not cause more than slight shrinkage, and never brought them to normal size and weight. It is quite probable that these tests in vitro do not follow exactly the same process that might be found in the living animals. Experiments in vivo, however, show similar conditions.

Staining reactions of animals recently lesioned, and those whose lesions have been present for varying periods of time, have been studied. Intra vitam staining and supra vital staining have shown that recent lesions are associated with subalkaline, and old lesions with subacid reactions of the tissue juices of the disk.

Boots and Cullen have shown that in acute noninfectious inflammations of the joints the p^H of the exudates and synovial fluids tend to be acid, while these same fluids in chronic noninfectious inflammations tend to more alkaline reactions. They found a range of variation from p^H 6.14 in acute to p^H 8.4 in chronic inflammations. Lesioned animals at Sunny Slope were subjected to tests made by intra vitam and by supra vital staining. Their reactions showed a much shorter range of variation.

The fluid in acute inflammation due to a recent vertebral lesion showed about p^H 6.8 and the fluid in chronic inflammation due to a lesion of some weeks standing showed about p^H 7.8. This shorter range is probably due to the less severe irritation due to the lesion.

The changes in the intervertebral disk which follow an experimental bony lesion have been studied in rabbits and in large guinea pigs. A slight increase in the pressure which the nucleus pulposus exerts upon the peripheral fibers of the disk is visible within five to ten hours after the lesion has been produced. The time required for imbibition of water by the nucleus pulposus is least in young animals of any species, and in small animals. It is longest in old animals of any species, and in larger animals. The peripheral fibrous part of the disk does not show edema, recognizable in frozen sections, until two days or more after the lesion has been produced. During the period when the swelling of the disk is associated with fairly normal conditions of the peripheral fibers, lesions often are spontaneously corrected. After the peripheral fibers have become edematous, the probability of spontaneous correction of lesions is considerably diminished.

During successive weeks, the changes in the disk tend more and more to perpetuate the lesion. With diminishing elasticity, the fibrous portion of the disk yields to pressure, becoming very slightly thinner in the region subjected to greatest pressure. Usually the side of the disk subjected to least pressure does not increase in thickness, though in certain cases of marked scoliosis due to injury, and associated with malnutrition and systemic acidosis, there was some actual increase in the thickness of the disks on the convex side of the curve.

As the lesion becomes chronic, the fluids of the spinal articulations, like those of the joints elsewhere in the body, become progressively more alkaline. This condition finally results in the absorption of water from the nucleus pulposus, and, later, from the peripheral portion of the disk. The time required for this change varies in different animals, being shorter

in older animals of any species, and for smaller animals. The swelling of the disk may disappear within three or four weeks in very old animals, and may persist for a year or more in younger animals. In any case, the change finally occurs. Water is absorbed from the nucleus pulposus, the cells die and become unrecognizable, the substance diminishes gradually in amount, becomes whiter and more opaque in appearance; tougher, harsher, and more brittle in palpable quality. Microscopic examination shows abundant granular debris, many fine connective tissue fibrils, and a few of the cells connected with these fibrils but no recognizable cells of the original notochordal type. The granular material is hygroscopic, and these granules take up water abundantly when placed in solutions resembling normal tissue juices of the animal whose spine is being studied. As yet, it has not been possible to bring the granular debris, in vitro, to the condition of normal nucleus pulposus, but experiments in vivo indicate that at least a certain degree of recovery is possible for this material if the normal circulation can be established in animals which are not too old.

A litter of five young rabbits was selected for experiment. Four were lesioned, and the lesion permitted to remain present for three years. One was killed; the nucleus pulposus showed the condition described above. Two rabbits received osteopathic treatment for the correction of the lesion. They lived for six months longer. One of those treated was killed. The nucleus pulposus of the lesioned region showed some pulpy material and a very few cells of the notochordal type. The others lived six months longer, and all were killed. The nucleus pulposus of the rabbit which had not been lesioned showed normal structure of all the spinal disks. The rabbit which had been lesioned, but not treated, showed normal disks of all spinal segments except those of the lesioned and neighboring segments. These showed the changes described above. The disks of the rabbit which had been lesioned, then had received corrective treatment, showed normal disks for all except the lesioned and neighboring segments, and these showed partial recovery. There was some pulpy material, the nucleus pulposus exerted a moderate amount of pressure upon the peripheral fibers, but less than was noted for the normal disks in the same rabbit. A very few cells of notochordal origin were found within the nucleus pulposus. These showed less active staining reactions than were present in the normal disk of the same rabbit, or in the disk of the same segment of the normal rabbit.

The fibrous portion of the disk of the lesioned segment is less elastic than is the same tissue of disks in the normal spinal regions of the same animal, or any of the disks of a normal animal of the same age and species. This difference is perceptible within four days, in small laboratory animals (kitten; guinea pig; young rabbit). The elasticity of the fibers diminishes gradually during the next few weeks. By the end of a year, the fibrocartilaginous portion of the disk has lost its cartilaginous matrix, and the fibrous portion is duller, denser, more opaque white in appearance. The layers are more distinctly visible than in the normal disk, and the fine fibers which unite the layers are brittle, fragile, and easily broken in handling the tissue. The fibers are water-logged, putty-like in palpable quality, without recognizable elasticity.

During the second year and later, the disk becomes more brittle. Water is yielded, and the fibers become harsh and dry. The disk assumes, permanently, the form imposed upon it by the abnormal position of the vertebrae concerned in the lesion. Flexibility is almost or quite absent.

Correction of the lesion after the second year is difficult. Adjustment must be repeated many times, and it may be impossible to secure permanent and adequate correction. Even partial correction may bring back some increased mobility, and may improve the symptoms due to the lesion. Return, in part, of pressure relations of the nucleus pulposus may be secured even three years after the lesion has been produced. Lacking its normal elasticity, the disk which has been lesioned for two or more years is often unable to adapt itself to the new position (originally its normal position) after treatment. It therefore exerts a passive resistance to corrective manipulations.

However, if the manipulations are given sharply, suddenly, and forcibly, a local acidosis may be produced, and the swelling associated with this condition may increase the mobility of the affected articulation, soften all the tissues, and permit correction. With later swelling of the tissues around the joint as well as of the disk, and with congestion due to this noninfectious, mild, acute inflammatory reaction of the tissues around the joint, there may be produced a condition which perpetuates the correction much in the same manner as these same factors perpetuated the lesion itself when it was first produced.

These relations have been studied in rabbits, whose total lifetime is rarely more than eight years. Changes in the tissues occur more readily in small animals than in larger animals. Comparison of many factors suggests that the changes which occur in a rabbit in one year probably require about eight years, possibly seven to ten years, in the human subject. Probably a lesion present for twenty years in the human subject, allowed to remain untreated, would require several months of persistent treatment to secure permanent and adequate correction, even if this were possible at all. But even a partial correction of the lesion, even after a longer period of time than twenty years, may cause very satisfactory relief of symptoms, and add considerably to the comfort of the patient.

The animals reported in this paper include those kept at Sunny Slope by Dr. W. J. Vollbrecht, in South Pasadena by Dr. Laura Tweed, and prepared for the examination of flexible spines by Dr. Homer Tweed.

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Acute Appendicitis

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Acute appendicitis is responsible for the untimely death of thousands of persons each year in this country alone. The disease is one of the commonest that we see. It is a disease in which the presenting symptoms are the most varied and deceiving, and a disease in which the penalty for neglect, procrastination and poor judgment is tragic.

The great danger in appendicitis lies in the frequent mildness of the clinical symptoms together with their simulation of that indefinite disease "indigestion" for which every housekeeper has her own remedies. This writer holds the belief that a majority of all cases of "indigestion" associated with low fever are acute appendicitis and that all such cases should be so considered until proved otherwise.

A study of the anatomy and pathology of the appendix will explain, in some measure, the great danger presented when the structure is acutely inflamed. The appendix is a worm-like process from two to six inches in length which is attached to the inner and back part of the cecum. It is composed of an outer serous coat, an external layer of longitudinal muscle, a thick inner circular muscle, a submucosa rich in blood vessels and lymphoid tissue and an inner mucous membrane which is thrown into longitudinal folds, thus producing an irregular central canal in communication with the cecum. When irritated, the mucous membrane becomes congested and swollen. This swelling, if continued, soon blocks off the drainage into the bowel. Later the swelling becomes greater and compresses the veins which in turn results in even more swelling. Bacteria, not being hindered by the restricting influences of a normal blood supply to the part, multiply rapidly, increase in virulence and penetrate the deeper tissues. Sooner or later, unless early resolution takes place, the swelling interferes with the nutrition to the part to such an extent that gangrene sets in. Rupture soon follows upon gangrene and peritonitis upon rupture. Soon irretrievable damage has been done and all the skill in the world cannot alter a condition which only a little more care might easily have prevented.

CLINICAL HISTORY

The clinical history of acute appendicitis runs something like this: indisposition, abdominal pain, nausea and vomiting. The pain, which is unrelieved by vomiting, tends to be generalized early and localized late. It may take the form of sharp colicky pains or a dull steady ache. The pain may be very severe or almost entirely absent. There may be early diarrhea though far more commonly constipation is the rule.

PHYSICAL EXAMINATION

For examination, we usually have a patient in youth or early adulthood, though the disease is common in middle age and not rare in the extremes of life.

The patient may look well in the milder catarrhal cases while he looks sick and has many complaints in the more severe types.

Examination of the abdomen may or may not reveal any abnormalities by inspection. Palpation usually elicits tenderness in the lower right quadrant—the point of maximum tenderness varying according to the duration of the affection, the type and extent of the pathology and, of greatest importance, the actual position of the appendix.

In the more severe types we get a peri-appendiceal inflammation which extends to the structures in immediate relation to the appendix and from which there may arise more tenderness than that referred through the appendiceal nerves to McBurney's point. The point of maximum tenderness and seat of localized pain, then, may be high toward the costal margin, lateral to the flank or inward to the median line though most commonly, of course, over the normal anatomical position of the appendix.

One of the most constant findings is a spasm of the muscles of the lower right quadrant as compared with the same muscles on the other side. This spasm, probably a reflex protective mechanism, is usually characteristic after twelve hours, though purulent cases have been seen in which no abnormal muscle tone could be noted. Registration of the temperature reveals a low fever, 99° to 101°, though subnormal values are common early and higher values later. The pulse is usually increased in proportion to the fever.

BLOOD COUNTS

One of the most reliable guides in acute appendicitis is the white blood count. While appendicitis cannot be diagnosed from a study of the blood, nevertheless the white blood cells advise us of the nature and extent of the inflammation together with the response the individual is making to it. These counts when carefully made and properly interpreted will help us avoid unnecessary surgery on the one hand and also urge us not to temporize with conditions which can be seen to be hazardous on the other.

Before considering the significance of blood counts in appendicitis, let us offer a standard which blood count work must meet if it is to be given the importance which it rightly deserves.

A satisfactory white blood count must:

1. Be made from a drop of blood obtained without squeezing the part;
2. Be confirmed with a second pipette using a second drop of blood. The two counts must check within the same clinical significance. If the two counts vary widely, an average of the two must not be taken, but rather the whole procedure must be repeated until the true count has been determined;
3. Be counted in the patient's home as it is difficult to transport pipettes of blood without inducing errors. Again, rechecks upon the blood are frequently required and they will not be made unless the counting was done at the patient's side.
4. Include from 300 to 500 white cells in the differential count. The number of cells counted must be stated. Blood smears should be thin and evenly spread. A good stain and a high power of magnification are required for good work. Neutrophiles should be reported in such a manner that the percentage of unsegmented (immature) forms is shown.
5. Give the date and hour that the count was made together with the pulse and temperature of the patient at that time. This is urgently necessary so that the doctor can get a correlation between

the blood counts and the clinical symptoms of pulse and temperature which will guide him if he treats the case conservatively. Many times there is a marked change in the case between the time the laboratory work was done and the doctor's visit. As the counts indicate the condition present when they were taken, the doctor must know the pulse and temperature at that time lest he be misguided.

After meeting this standard and when considered in the light of the clinical symptoms of the case, blood counts will be found a reliable guide as to the nature and extent of the inflammation in cases of acute appendicitis.

As the interpretation of blood counts in appendicitis concerns more the management of the case than its diagnosis, this consideration will be taken up under the heading of treatment.

DIFFERENTIAL DIAGNOSIS

Acute Indigestion—

Acute indigestion is often confused with acute appendicitis. The early symptoms of both may appear in no important way dissimilar excepting that vomiting may bring great relief or even terminate an attack of indigestion while it only marks the beginning of an attack of appendicitis. The history of food eaten is of no importance for the causes of both are often the same—dietary indiscretions. The two diseases are so closely related that a case may start out as crude indigestion and terminate as acute appendicitis. It is well known that acute appendicitis may originate from a preëxisting enterocolitis by simple extension of inflammation. The only safe way to treat "indigestion" cases is to consider them as acute appendicitis if there is pain, nausea, vomiting or fever after eight hours from the onset unless the appendix has been removed or else the case clearly recognized as nonappendiceal. The close watching and study that appendicitis requires does no harm to acute indigestion even if it continues as such. On the other hand, the easy and free manner in handling cases of "indigestion" is fraught with great danger if the case proves to be or develops into an acute appendicitis.

Cholecystitis—

The clinical symptoms of abdominal pain, nausea, vomiting, fever and leukocytosis are common alike to acute appendicitis and acute disease of the gallbladder. In cholecystitis, the pain is usually high under the costal margin and is referred to the right shoulder blade. As the pain of cholecystitis, however, frequently radiates downward to the lower right quadrant and because the pain of appendicitis is commonly referred high under the right costal margin, the differentiation of these two conditions may not be as simple as might first appear.

When inspection reveals a bulging, and palpation a mass in the position of the gallbladder in a case where the lower right quadrant is negative, we have little trouble in distinguishing cholecystitis from appendicitis. Considering the vagaries in the symptoms of both these diseases, a clear differentiation is frequently difficult and occasionally impossible. The writer questions whether any surgeon of experience has been spared the finding of an acute appendix in an operation for a gallbladder and vice versa.

While one might say that appendicitis more frequently attacks people younger than the middle of life and cholecystitis those beyond that age, nevertheless, the exceptions to such a rule are legion. Rules are dangerous unless the ever present exceptions occupy as prominent a position in one's mind as the rules themselves.

To be safe in the management of cases of cholecystitis undifferentiated from appendicitis, seek consultation with a man of experience when the clinical symptoms and blood counts show that conservative treatment would be hazardous if the case were one of appendicitis instead of cholecystitis.

Oophoritis and Salpingitis—

Right ovarian and tubal disease in women frequently produces a picture indistinguishable from appendicitis. This is particularly true in appendicitis when the structure lies low on the pelvic brim and especially so when a periappendiceal inflammation exists. There may be no important symptoms present other than abdominal pain localizing in the lower right quadrant, nausea or vomiting, fever and leukocytosis in either of these two conditions. Muscle spasm appears no different from that expected in appendicitis.

The history may reveal menstrual irregularities, dysmenorrhea, recent abortion or some other menstrual disturbance in disease of the adnexa. Such history, while suspicious of ovarian or tubal disease, surely cannot be made the basis of a diagnosis.

Vaginal examination may reveal great tenderness in the uterine appendages, either on one or both sides. This finding is evidence in support of disease of the adnexa though it does not satisfactorily exclude the possibility of a coexisting appendicitis; neither does it satisfactorily differentiate tubal disease from a periappendiceal inflammation of a low-lying appendix. A negative vaginal examination is of much greater help than a positive one for the negative examination can reasonably be considered as presumptive evidence of the absence of acute disease of the ovary and tube.

Doubtful cases will occasionally be found. These will require close observation and study. Until their true nature has been determined, the general practitioner had best manage them as he would a case of appendicitis. When the clinical symptoms and blood counts suggest a degree of inflammation which would be known dangerous for conservative treatment if the case were one of appendicitis, it will be found wise to get consultation.

Nephritis, Pyelitis and Ureteritis—

These and other kidney affections on the right side may be confused with acute appendicitis. Acute pyelitis may give abdominal pain, vomiting, spasm of the rectus muscle, fever and leukocytosis. Palpation frequently reveals increased tenderness in the position of the kidney. Urinalysis usually shows a cylindruria, pyuria or hematuria if the condition is not intermittent. A microscopic study of the urinary sediment is essential. The writer has recently noted several cases of focal nephritis in young individuals whose urine was normal in appearance and wholly albumin-free and yet microscopic examinations revealed marked cylindrurias.

Stone or stricture of the right ureter may simulate appendicitis. If there is much associated inflammation, urinalysis will reveal it within twenty-four

hours with a hematuria, pyuria, or both. Single samples of urine taken early may be negative. Even later, the physical appearance of the urine may closely approximate the normal and yet the specimen contains fairly substantial amounts of pus and blood. In acid urine, small amounts of blood are converted into brown-colored acid hematin. Thus the mildly hematuric patient may pass urine without the slighest red cast—in fact, urine which in appearance is in no way abnormal.

The differential diagnosis between a lesion along the urinary tract and appendicitis should not often be difficult if a close watch is kept on the urine. One must remain mindful, however, of the possibility of having acute appendicitis coexisting with a disease of the urinary tract producing a cylindruria, pyuria or a hematuria. In doubtful cases, consultation is suggested when the clinical symptoms and blood counts indicate that conservative treatment might be risky if the case were one of acute appendicitis.

Pneumonia and Pleurisy—

Lower right lobe pneumonia and diaphragmatic pleurisy occasionally give sharp pain in the lower right abdomen. There may be varying degrees of leukocytosis and fever in both of these conditions. A distinct chill is far more common and vomiting far less common in pneumonia than appendicitis. Respiratory excursions are usually painful in pleurisy and not so in appendicitis.

In every suspected case of appendicitis the lung should be carefully examined for these possibilities before sending the case to surgery. Failure to take this precaution may result tragically for the patient. In doubtful cases, consultation may prove helpful.

Hysteria, Neuralgia, Abdominal Crisis of Locomotor Ataxia, Etc.—

One commonly meets noninflammatory states which give abdominal pain of such a nature as might be confused with appendicitis. A careful white cell count usually reveals a blood picture which is distinctly contraindicative of the presence of an acute inflammatory state.

TREATMENT OF APPENDICITIS

There is no uniformity of opinion as to the proper treatment of acute appendicitis. There remain a few physicians who still believe that these cases can and should be treated conservatively. On the other hand, there are a larger number who consider all cases of acute appendicitis immediately surgical. There is no question in the writer's mind but that the milder catarrhal cases should have conservative treatment and the more severe cases immediate surgery.

Let us consider some of the factors involved in determining the treatment of a case of appendicitis:

1. *The Certainty of the Diagnosis:* The treatment of appendicitis should be conservative as long as there is any reasonable question as to the diagnosis, unless the degree of inflammation present would make such temporizing hazardous, or unless the treatment of the other possible diseases with which it might be confused is likewise surgical.
2. *The Nature and Extent of the Inflammations:* Cases of appendicitis, and other complaints diagnosed as such, should have conservative treatment if the white blood counts closely approximate the normal and if there are no untoward clinical symptoms. If the diagnosis has been thoroughly established and pain, fever or leukocytosis persists after eight hours, the case may safely be considered surgical.
3. *The Inclination of the Patient and Family Toward Surgery:* Opinionated individuals often modify the type of treatment in acute appendicitis. It is well to harmonize one's plan of treatment with the feelings of the patient when possible, but only as long as the doctor can keep within the bounds of reason on the one hand and those of safety on the other.
4. *The Surgical Risk Involved:* When the appendicitis patient is believed to be a poor surgical risk, conservative treatment is indicated as long as thought safe, at which time consultation should be sought. The wishes of the patient and his family may well prevail in those cases where there is a recognized danger both in conservative and in radical treatment.

In treating acute appendicitis, the doctor is confronted with two questions: 1. Can the case be managed safely with conservative treatment? 2. Is the case one for surgery?

A careful white blood count interpreted in the light of the clinical symptoms of the case is of inestimable aid in answering these questions. Experience suggests these guides:

1. When the white blood count is less than 10,000 with a proportion of 60 per cent or less of well-matured neutrophiles and in which blood picture eosinophiles are present, then it is believed that the case is safe for conservative treatment.

2. The persistence of pain or fever in appendicitis after eight hours requires a check upon the blood cells or else should induce a question in the mind of the physician as to the safety of conservative treatment.

3. The persistence of pain or fever to the second or third day in appendicitis would seem to preclude "safety" unless the blood picture can be determined as of that type mentioned above. Even in such an event, consultation would best be obtained as it is likely that either the blood count or else the diagnosis is in error.

4. When a case of appendicitis shows a leukocyte count of 14,000 or more with a proportion of neutrophiles of 75 per cent or more, then it is safe only to consider the case surgical provided the blood picture can reasonably be thought of abdominal origin—the chest clear and the throat not inflamed.

5. Conservative treatment of a case of appendicitis with a leukocyte count of 18,000 or more with a proportion of neutrophiles of 80 per cent or more is too hazardous to be permitted if the blood picture can be thought of as of abdominal origin.

6. When the proportion of neutrophiles exceeds 85 per cent in a case of appendicitis, conservative treatment is dangerous without regard to the total white count. In fact, the lower the white count when the neutrophiles reach or exceed 90 per cent, the more virulent the infection. In such a case, the neutrophiles are mostly immature forms and such a picture can be interpreted as evidence of a poor reaction to a severe leukocytogenic demand.

Conservative treatment is indicated in the milder cases of appendicitis and those cases occurring in individuals who are poor surgical risks and in certain cases where the patient refuses surgery. This treatment consists mostly of a series of "do nots":

1. Do not use or allow the use of cathartics.
2. Do not use or allow the use of enemata.
3. Do not use or allow the use of opiates or sedatives.
4. Do not permit the ingestion of food excepting water, citrous fruit and a simple sugar to prevent a ketosis.*
5. Do not manipulate the abdomen or sharply twist the lower spine.

The reason for these prohibitions should be known to all. Cathartics irritate the bowel and break down any protective adhesions which might be forming. Enemata activate the intestinal tract and destroy new adhesions in the same manner. Opiates and sedatives mask the important symptom of pain. It is never safe to temporize with cases of appendicitis when the pain is so severe or prolonged that one is urged to relieve it with pain-killers. The ingestion of food produces peristalsis along the bowel which is no less objectionable than that mentioned above. Abdominal manipulations never do any good and frequently do much harm in destroying the formation of protective adhesions around the inflamed area. In manipulating the acute abdomen there is the additional danger that one might be given credit for a serious consequence which he did not truly merit.

Conservative treatment for appendicitis consists mostly of watchful attention. It is well to keep the cold pack continuously on the lower right abdomen. If the patient has pain, fever or leukocytosis, the pulse and temperature should be recorded each hour during the day and at such times during the night as the patient is awake. If the pain, fever or pulse increase the doctor is to be called at once. If the pain, fever and pulse do not become lower on the second day, then the continuance of such conservative treatment is hazardous.

Acute appendicitis is one of the most dangerous of all the diseases with which we deal. This is principally true because of the frequent innocuous appearance of the affection together with the vagaries of the clinical symptoms usually taken as guides.

Remember, rules are dangerous. Let us not jeopardize our patient's life because his symptoms are in some way atypical. This writer has seen purulent cases of appendicitis without pain; many such cases in which the pulse and temperature were normal, septic cases without detectable muscle spasm and perforating cases without previous vomiting. The progress of the disease may be so rapid that gangrene and perforation take place within twenty-four hours of the beginning of the attack.

The blood counts, when made as suggested, are believed to be the most reliable single guide as to the nature and extent of the inflammation in appendicitis though they cannot, in any sense, minimize a consideration of the clinical features which are or may be presented.

Consultation has often been suggested for doubtful cases. The wise doctor will use it frequently. Two physicians will not be blamed for a bad result—the responsibility for which neither of them could stand alone. Consultation adds to the credit of the doctor without costing him a single penny. Let one remember that the patient may place a higher value upon his life and health than the cost of a consultation fee.

It is hoped that the day is not far distant when appendicitis will more often be recognized as such and treated with the respect which it rightly deserves. When that day arrives, we shall save the lives of thousands of people each year in this country alone.

677 Parkside Avenue.

*Glucose or strained honey in amounts of a tablespoonful four to six times a day will usually accomplish this result.

Principles of Manipulative Treatment

The Low Back Problem

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X

PRIMARY SACRO-ILIAC MALADJUSTMENT

Physiological Considerations (continued)

Physiological movements of flexion and extension of the sacrum within the pelvic ring were mentioned last month. They take place around a transverse axis through the sacrum.

Another movement of the sacrum between the ilia, which the writer classes as normal, although slight in extent, is sidebending. It is a rocking of the sacrum between the innominates. That is, the sacrum can normally move in relation to the innominate on either side in a superior-inferior direction around an axis perpendicular to the flat surface of the bone. It is believed that a slight amount of this rocking movement occurs in normal locomotion. Physiologically, this is of but slight importance, but from the standpoint of pathology it assumes a major importance, as follows:

In our series of cases, various degrees of subluxation of the sacrum *downward* in relation to one or both innominates was encountered. (Thinking of the patient standing helps to visualize this condition.) This lesion is called by some an up-slipped innominate, but an up-slipped innominate is rare. Often the sacrum has moved downward instead. A real down-slipped innominate is found at times, but the sacrum rarely moves upward with any force. (The movements of the ilia in relation to the sacrum will be discussed later.)

Common modern methods of acquiring the several pathological variations both of the flexion and extension movements and also of this sidebending movement will be outlined under the head of etiology.

The third and last major movement of the sacrum within the pelvic ring to be described as physiologically characteristic, is that of torsion or rotation, occurring about an axis through its long dimension. This movement has been so often referred to in previous articles that little mention of it will be made here. It is easy to visualize and very often occurs pathologically exaggerated.

The causes of the essential pathological changes

are most easily understood from the standpoint of the analysis of the etiology of both primary and compensatory sacro-iliac maladjustment, when the sacrum is thus considered as moving within a pelvic ring supported from below. It should be understood, as will be seen when etiology and pathology are discussed, that an innominate can be subluxated upon a theoretically more or less immobile sacrum. The point of view depends upon the mechanics of etiology.

In the mechanics concerned with lesion production, as well as in the principles used in correction, it is desirable to know what stresses were produced and how. A standard law of physics, the law of *inertia,* determines which are the real moving elements and which are relatively stationary. This is true in lesion causation, as well as being very important in technical normalization.

Inertia is defined as "The property of matter of remaining at rest or continuing indefinitely in the motion imparted to it, unless acted upon by some impelling or retarding force."[1] Let us see just how this principle applies in sacro-iliac mechanics.

In jumping, the trunk weight, together with the inertia of the sacral load, can actually cause a descent of the sacrum in relation to one or both innominates. Stress is produced and the resulting strain is sufficient to cause a severe subluxation and inflammation in the involved iliosacral joint. With the patient standing erect, or examined roentgenologically erect, the two halves of the pelvis are seen to be of even height, but the sacrum is subluxated *downward* upon the involved side. Spinal curvature takes place in a compensatory manner. Proper treatment demands that the sacral malposition be analyzed as produced, and if possible be replaced *upward,* properly to level to its superior surface for correct lumbar support.

Contrast with this the case in which the subject is lying, and a violent pull is made downward upon one lower extremity. Due to the law of inertia, the innominate upon the moving side will alter its relationship in a downward direction with the sacrum. Here the sacrum is relatively fixed (nonmoving because of its inertia) and a down-slipped (so-called) innominate will result again, with the patient standing, the two halves of the pelvis are seen to be of even height, but the sacrum is apparently subluxated *upwards* upon the involved side. Again, proper treatment demands that the sacral malposition be so analyzed and here instead of *raising* one side of the sacrum to level it, the involved side should be *lowered* or its corresponding innominate moved upward to its correct position. In the technic described under treatment, it will be seen that the two-operator method for sacro-iliac mobilization and realignment is most efficient in caring for each of these mechanical details of pathology.

These descriptions may help to clarify iliosacral mechanics and illustrate the advantages of visualizing the subject standing erect. They also show why the writer thinks it important to describe the physiological movements of the sacrum within the pelvic ring. It helps to understand both sacral and innominate displacements much better.

Many maladjustments of one or both innominates occur in relation to a relatively nonmoving sacrum. They have been so often described as not to need emphasis here. They will be further considered under the head of pathology.

ETIOLOGY OF PRIMARY SACRO-ILIAC MALADJUSTMENT

The most common modern methods of acquiring primary maladjustments (subluxations, strains, sprains and relaxations) of one or both iliosacral joints will now be described. The causes of compensatory maladjustments in these structures have been described many times in the previous papers and need not be repeated here.

It may be stated as a general rule that the external forces that are sufficient to cause *primary* pathology within the sacro-iliac mechanism are usually extreme in degree. In regard to this point Clark[2] (1906) said: "Considerable force is usually exerted in the production of all lesions of this joint. This is because of the shape, size and character of the articulation. The joint itself is injured to a greater extent than the joints in vertebral lesions." (pp. 305, 306.)

Most osteopathic physicians are familiar with the many ways in which patients acquire the typical innominate lesions, so this extensive mass of etiological detail will not be discussed at this time. The discussion of etiology will be limited to a few less understood modern methods of lesion production. These will be reviewed in the same order in which the physiological movements of this unit were described.

Forcible increased lumbar lordosis, which in turn is frequently transmitted to the sacrum, often occurs in high and fancy diving, when the lower extremities fall too far over, after the trunk has entered the water. A recalcitrant sprain of one or both sacro-iliac joints at times results, the sacrum being found too far back. Particular damage is often incurred also by the lumbar portion of the anterior common ligament.

The opposite strain in which the upper part of the sacrum is found too far forward in relation to one or both ilia occurs when the patient is bent forward and then is forced further. This is common in football and soccer players, especially the latter. It occurs in miners and many other individuals of strenuous occupation.

There are many ways of producing the side-bending or rocking lesions of the sacrum. The one in broad jumping has already been described. Likewise the football player, the handball and the squash addict often wrench the sacrum forcibly in this lateral bending direction.

The third or torsional movement pathology is most common and as a primary sacro-iliac manifestation is acquired in countless ways. It is frequently found in ordinary practice, in golf players. It is possible for the golfer to twist the sacrum forward upon the right side or backward upon the left, or both, in relation to the innominates as follows:

[1]Stedman, Thomas Lathrop: A Practical Medical Dictionary, Eleventh Revised Edition, William Wood & Co., New York. (1930), p. 516.

[2]Clark, M. E.: Applied Anatomy, Kirksville, Mo., Journal Printing Co., 1906.

If the ball is missed, the rapidly moving trunk twists the sacrum into the position just described, because of its inertia in relation to the slower moving innominates. If the club head, on the contrary, strikes the ground and the upper trunk is thus retarded in its rotation, the pelvis often carries on through, and the sacrum will be found backward upon the right or forward upon the left or both.

The sacro-iliac damage in these cases is made easier because in the golf swing there is a tendency to gap the left sacro-iliac joint in its anterior portion at the end of the back swing and the right articulation in the same manner as the swing ends. These articular structures are made less stable even though this gapping is only slight.

Another common method of causing torsional pathology of the sacrum, in which the mechanical principles are about the same, occurs in women who ride sidesaddle. When low back pathology is found in these patients it is especially resistant to treatment unless understood. Horsewomen who ride sidesaddle, especially in hunting and jumping, where amplified stresses are encountered, usually twist the sacrum backward upon the right innominate. This is due to the twisting of the upper trunk to face forward. The pelvis, of course, faces toward the left in riding. In this instance, what is good form for sidesaddle riding proves to be an especially bad technic physiologically.

Many other everyday causes of these pathological variations of sacral physiology could be enumerated. Bowling is one of the worst. Wrestling, rackets, tennis and many other sports could be cited. The reader, once he sees the mechanical reasons, will be more able in recognizing the exact causes and resulting changes presenting in the cases of sacral twist that he observes.

The physician should always remember, in estimating causes of sacro-iliac and all other articular maladjustments, that at times great force is not necessary to bring about considerable joint damage. At times when the neuromuscular protective mechanism is off guard but for a fraction of a second, as it often is, for example, in ankle joint sprain, much undue stress can occur. This lack of protection by the muscles often permits extreme forces to be applied from some simple movement whereby, for instance, the heavy trunk weight is wrongly transmitted on a tiny lumbar facet little larger than a finger nail. These coordination accidents frequently permit undue strain to occur in the sacro-iliac articulations as well.

It is possible to twist the lumbar and dorsal regions in either of two directions in accordance with the same mechanical principles.

PATHOLOGY

Not much space in this paper need be devoted to Primary Sacro-Iliac Maladjustment Pathology. Some features of this subject have been previously discussed and most osteopathic physicians are well grounded in it. To classify and describe accurately the gross and minor characteristics of *all* of the maladjustments that can and do occur in the sacro-iliac mechanisms, would be an endless and unnecessary task—endless because of the countless variation possibilities and wholly unnecessary from a technical standpoint because with an adequate diagnostic ability mere naming of the lesions is unimportant.

The types of possible sacro-iliac pathology such as subluxation, sprain with acute or chronic inflammation, and sacro-iliac relaxation, have been mentioned. Various combinations of these do occur. Mention also has been made of an immobile articulation upon one side and a compensatory hypermobile or relaxed one upon the other. At times subluxation and strain occur concurrently. These various phases of pathology are of such common knowledge that they need not be reviewed here. The discussion of pathology will, therefore, comprise only items less well known but quite important.

As a first and fundamental principle of sacro-iliac pathology then, we must consider the role that inflammation plays, together with its resulting fibrous thickening in the ligaments and muscles in relation to the sacro-iliac mechanism, and the effects of this fibrosis.

The trunk weight is supported through the agency of the sacro-iliac joints almost entirely by the sacro-iliac ligaments. Traumatic insult, therefore, most frequently affects these structures, especially at their osseous attachments. Countless forces in various directions constantly strain these ligaments so that inflammation with periosteal tenderness, swelling and proliferation is found in many diverse places. No doubt were it not for the anatomical details of the grooved horizontal and vertical portions of the auricular surface acting as orderly directing agencies, sacro-iliac ligamentous pathology would be complete chaos.

Before describing the manner in which the grooved portions of the auricular surfaces, as well as the general shape of the articular cavity, govern in a degree the pathological changes that the iliosacral articulations are subject to, the inflammatory changes in the ligaments must be given.

Typically, when traumatism occurs, stress is induced within the ligaments and is most amplified at some one point resulting in sprain. The mechanical irritation causes inflammation at the involved point. Some swelling and tenderness usually ensues and is often seen extending, for example, into the gluteal muscles. Later ligamentous thickening, at times with adhesion formation, is common. Most often this pathology acts to lessen greatly the mobility of the joint at the involved point. Many other resulting symptoms then appear, near at hand or remote. There may or may not be subluxation in this instance. Diagnosis is based upon many points and defective iliosacral mobility is one of them. Appropriate treatment removes the fibrous thickening or adhesions and restores normal mobility. Certain ligaments are more often involved in these pathological cases than are others of the sacro-iliac group. Let us see now why this is.

The grooved surfaces of the sacrum and the corresponding rounded limbs of the auricular surface of the innominate bear a definite relationship to the pathologies of the most common sacro-iliac maladjustments. The positions of the horizontal and vertical limbs of the auricular surfaces are of a definite direction in the standing patient. The limbs, vertical and horizontal, join anteriorly to form an angle at the apex. A bisector of this angle points

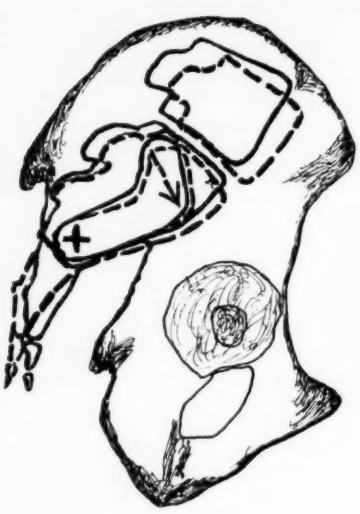


Figure A

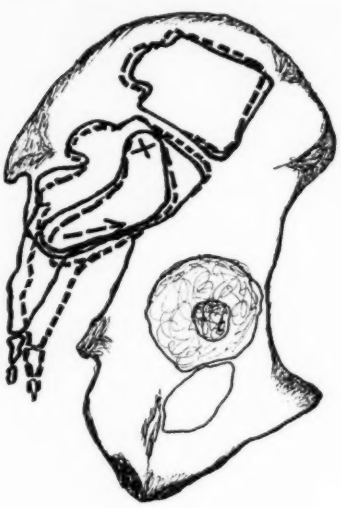
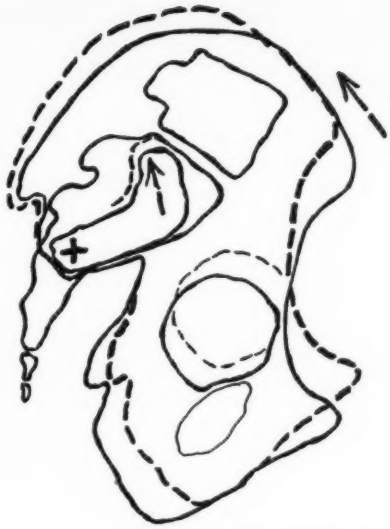


Figure B



Drawings by M. C. Beilke, D.O.
Figure C

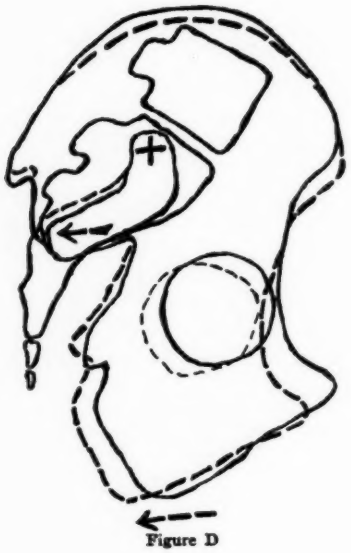


Figure D

at about an angle of 45 degrees with the horizontal, down and forward. (See figure 1.) It is about perpendicular to the flat surface of the sacrum, and posterior and lateral to it upon either side lie the posterior superior spines of the ilia. Stated differently, the posterior superior spine of the ilium is found almost directly backward from (usually slightly below) the open or Y part of the auricular surface.

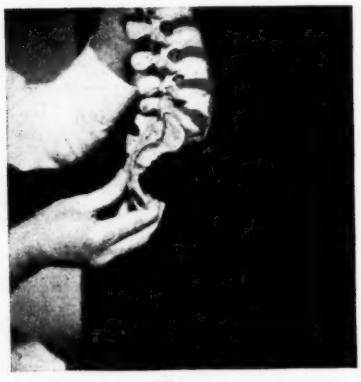
What bearing do these details of construction have upon sacro-iliac ligamentous pathology and subluxation? The reader is requested again to fix them in his mind with study of an osseous example before proceeding.

The three principal movements of the sacrum were described under the head of physiological considerations. Now further study of these movements, when perverted, will permit some classification of sacro-iliac maladjustment.

A single one of the three sacral movements rarely occurs pathologically alone. Usually there is a combination of the three physiological movements. When the sacrum is forced forward between the ilia, there is usually some rotation also. Upon the side where the superior part of the sacrum moves forward, and on the side where it also rotates forward, this movement takes place downward and forward, and is directed by the grooved surface of the *vertical* limb of the auricular surface. (See figure A.) In such a movement maximum stress falls upon the horizontal (and interosseous) sacro-iliac ligament and inflammation easily ensues in this structure.

When the innominate is the moving element the same strain takes place and the lesion is commonly called a posteriorly rotated innominate. (See figure C.)

In sacral movement mechanics, the combination of motions of an opposite nature is also interesting and when properly understood simplifies the much misunderstood so-called anterior innominate



The auricular surface of the sacrum outlined in black. Note its L shape, the two limbs and the position of the apex in the standing position.

Figure 1

lesion. Here the lower sacrum moves forward with some rotation.

Upon the side on which the lower sacrum moves forward and on which also rotation takes place forward, this movement is in a direction along the *horizontal* limb of the auricular surfaces. (See figure B). The innominate is relatively back in its lower portion and of the lower sacro-iliac ligaments, the oblique fibers are usually injured. (See figure D.) These points of ligamentous strain are important in diagnosis. They explain why, when the innominate is the moving element and it moves backward and downward along the groove of the horizontal limb, very few technic methods as now used would make it reverse such a course. This point perhaps explains why so-called anterior innominate lesions are quite difficult to normalize.

These explanations of sacral movement mechanics (and the same principles apply to innominate movement when the sacrum is relatively fixed by inertia) may appear rather complicated upon first thought. They are not difficult to understand, however, and serve to explain many errors noted in the standing pelvic work in our series. (Figures C and D are illustrations of this thought.)

Other combinations are possible with these two chief subluxations or strains, such as upslips, downslips and an infrequent direct back-slip. Any or all of them need be only slight, and for a short space of time to do great damage to adjacent structures.[3]

A description of the many sacro-iliac maladjustment variations that occur in *compensation* to lumbar and dorsal intervertebral pathology, and from the primary causes already discussed in this series, will not be undertaken here.

A study of the pathology just described, together with the diagnostic methods to be given, will enable one easily to interpret and normalize a great majority of the defective sacro-iliac cases that present themselves. A thorough knowledge of the anatomy, physiology and mechanics of any structure enables one easily to detect pathology. When these things are really understood, treatment indicates itself. It will be necessary to amplify and enlarge upon many of the points of pathology when considering the next topic, which is diagnosis.

DIAGNOSIS

In many instances an ideal sacro-iliac diagnosis cannot be made by the common methods of measurement alone. Measurements of leg length at the malleoli are inaccurate for sacro-iliac diagnosis because of the frequent occurrence of actual short lower extremity, as outlined in the March, 1932, JOURNAL. Comparative lower extremity rotation also is unreliable because, as will be shown in discussing primary lumbar maladjustment, this finding is too often conditioned by lumbar pathology. Likewise in practically all pelves that have been subjected to pathological stress over an appreciable period of time there is some actual asymetry in the innominates themselves, and their bony landmarks (anterior and posterior superior spines) are quite apt to be distorted from their usual positions. Therefore, in addition to these measuremental findings, which are well known to most practitioners, the writer uses other methods to be described that are deemed more reliable. It was said upon this point[4]: "Sacro-iliac diagnosis can be easily accomplished by other methods than comparative malleolar position and these other methods will be given when considering primary sacro-iliac maladjustments." A review of the entire paragraph from which this quotation is taken would aid in clearing this point at the present time.

Fryette[5] in 1914 said on this point: "There are many methods of diagnosing innominate lesions, consisting very largely of comparative measurements and of testing the sacro-iliac joints for motion. These all have more or less value and should be thoroughly understood so that they may be run through quickly, for they all help to give a picture of the lesion. But I am of the opinion that comparative measurements at best are not sufficient ground upon which to base a diagnosis. Comparative mobility of the sacro-iliac joints is of some value also, but it is difficult to tell which joint has the proper motion. . . . The fact that the innominates are in the same relative position is not conclusive proof that they are in normal relation with the sacrum. . . . It is my opinion that the only way accurately to diagnose an innominate lesion, or any other lesion for that matter, is by the condition of the ligaments and muscles, especially the ligaments about the joint."

Clark[2] in 1906 also stated that palpation of the joint itself is reliable. He said of sacro-iliac diagnosis that "The diagnosis is based upon irregularity at *the articulation, tenderness* and *disturbance of function* of the structures attached to and in relation with it." (p. 307.) (Italics mine.)

The writer desires only to explain in detail just how these methods of articular palpation can most easily be accomplished. Diagnostic methods in the present paper will be based upon three distinct findings.

1. Sacro-iliac mobility: Degree and quality.

2. Ligamentous involvement: Acute inflammation—chronic thickening or adhesion.

3. Tenderness: Periosteal and muscular.

These three will give much information.

Before describing exactly what each of the three determinations are, in the various types of sacro-iliac pathology, we shall describe the methods in eliciting the interpretations when palpating.

(Continued in the next article)

[3]These last named complications are without the scope of this paper, but anyone interested will find an article by H. H. Fryette and C. H. Morris in the November, 1914, issue of THE JOURNAL.

Acknowledgment is also due and gratefully rendered at this time to Dr. Fryette. Many of the ideas incorporated in this paper upon the pathology, diagnosis and treatment of sacro-iliac maladjustment were learned from him when he resided in Chicago, and during the five years that the writer was privileged to be associated with him in practice. His study of the physiological movements of the spine, together with his teaching of the two-operator method for sacro-iliac adjustment, set Dr. Fryette apart as a type of osteopathic student of which we have too few.

[4]THE JOURNAL, (March) 1932, p. 255.

[5]Fryette, Harrison H.: Four Innominate Lesions, THE JOURNAL, (November) 1914, pp. 106-107.

The Preoperative and Postoperative Treatment of Surgical Diseases of the Kidney and Prostate*

H. Willard Sterrett, D.O.
Philadelphia

Probably the greatest advance made in surgery during the past decade has been a better appreciation of the importance of preoperative treatment. By coupling with this an intelligent use of our more recent anesthetics, and the proper follow-up we have made wonderful strides in the reduction of mortality.

While this paper includes the kidney as well as the prostate, we are really more interested in the latter, remembering that the preliminary treatment is about the same in both. However, we shall begin with the various pus infections of the kidney. While we have a diversity of conditions, as for instance, pyelitis, pyelonephritis, pyonephrosis, etc., these are fundamentally the same disease with different clinical and pathological manifestations. Diagnosis is reached in the same manner with each, namely the cystoscope plus roentgenogram. As to treatment other than operative, it is not within the scope of this paper, although we may say that in a very large number of cases it is possible to establish drainage through dilatation and instillation of a ureteric catheter and institution of pelvic lavage for a few days. This will often be productive of results and we are enabled to restore a great deal of the renal parenchyma through this measure coupled with proper diet and proper manipulative treatment. It is absolutely necessary in this as well as any surgical condition of the kidney to know absolutely the functioning of the sound organ as well as of the affected one. Hence the cystoscope is quite indispensable.

In any preliminary treatment we feel that there are certain fundamentals which we may mention. It is quite important to have the patient in the best possible physical condition. Tonic treatment, with especial emphasis on the elimination through the bowel, is most important. We must not forget, however, that to keep on delaying in the hope of having the patient in better shape for operation may be the worst thing possible. Not infrequently one kidney may be diseased and delay will cause the other side to be infected, thus spoiling the chance for complete success. Laboratory tests alone will not be sufficient; judgment must be used as well.

In patients with hypertrophied prostate we are particularly concerned with renal failure. The operation per se, has a relatively low mortality rate and it is only the collapse of the kidney that causes such a hazard in this particularly common condition. Hence, the most important thing is to get the patient to surgery early, before there has been back pressure and consequent damage. As to the amount of residual urine to use as a guide, there is a diversity of opinion. Keyes of New York states that he considers four ounces an indication for intervention. Sir John Thompson-Walker of London stated to the author that he considered one ounce of residual as calling for operation. Personally, we feel that this last is a bit extreme, and that many of these cases under appropriate osteopathic treatment will be saved from the operating table. However, it is essential that we be guided by a given condition. We do feel that four ounces certainly should call for intervention, and in many instances, depending on the condition of the patient, his age, and other factors, we advise operation for less than this amount of retention. Unfortunately we are all too frequently called in after the patient has three or four quarts of residual urine and a great deal of damage has been done.

If there is an acute retention we must relieve this in one of three ways: By repeated use of the catheter, gradually drawing off a small amount each time until the bladder is empty; by a retention catheter; and by a suprapubic cystotomy.

Just a word about this emptying of the bladder. Damage done to the patient by completely emptying a huge, distended bladder is not confined to hemorrhage which may result from engorgement of the veins, nor from collapse due to withdrawal of pressure from the abdominal viscera; this may occur, it is true, but our real damage is caused by an acute hypostatic congestion of the kidney which results when back pressure is removed. For some time the kidney has been laboring. When we realize that the kidney and ureter have a pressure of 9 mm. of mercury, that increase of pressure causes the kidney to attempt to overcome the back flow and that the renal pressure is increased, we realize that there must be more blood supply. Suddenly taking the load off the structures causes an acute congestion with possible fatal results.

As to exact methods of decompression, we shall not go into detail. We find that it is possible merely by placing a retention catheter and fastening it, then establishing the output which normally would be present, to draw off an ounce or so more at a time than the patient is secreting and thus quite satisfactorily empty a bladder in three or four days. We must remember that in any method the most likely time for kidney failure is about the third to the fifth day. In support of the kidney at this time, as well as through the entire postoperative time, we have made it our practice to administer nephritin in doses of from 6 to 16 tablets daily. This of course increases the urine output, but if there is free drainage we feel that we have a most valuable asset in this physiological treatment.

In many cases we have an alkaline cystitis already present. This will be very difficult to overcome until drainage is perfect and we usually pay no particular attention to it except to irrigate the bladder with boric acid daily, and on occasion to attempt to acidify it through one of the various medicaments, as for instance, sodium acid phosphate, though this is by no means always successful. If the patient has a severe cystitis, and the urine is acid, we sometimes try a urinary antiseptic as urotropin, but this must not be given if we are dealing with an alkaline urine.

In event that we are forced gradually to decompress the patient it is quite obvious that hospitalization

*Delivered before the Internists' Section, A. O. A. Convention, Detroit, 1932.

is needed. In those cases that are more of election, and where we can perform a one-step prostatectomy we are perfectly willing that the patient be ambulatory, though we feel that treatment daily or oftener is the most important factor we know of. It is nothing short of amazing to note the way function will return to nearer normal under this regime. At any rate we insist that the patient be in the hospital for at least two days before we operate.

The surgery itself does not concern us here, the author performing a one-step prostatectomy wherever possible, as the patient has only the shock of one operation to fight. However, it is often necessary to resort to the two-step procedure and so the patient is prepared and the first step under local anesthesia. With the dePezzer catheter in place he is then allowed out of bed as early as the third or fourth day. This is of benefit, not only psychologically but actually, as it greatly lessens the chance of a hypostatic pneumonia developing.

PRELIMINARIES TO OPERATION

It is essential that the patient have a night's rest, and we have made it our procedure for the past two years to administer one capsule of nembutal at nine o'clock the night before the operation, and then two nembutal capsules forty minutes before the operation. We prefer to use the form of spinal analgesia known as percaine, administered by the so-called Howard Jones method. This gives a much better and more prolonged anesthesia than novocain or other analgesic. It is however followed by a somewhat larger percentage of postoperative headache.

The use of spinal analgesia prevents the dehydration so commonly found under a general anesthesia. The patient is actually encouraged to drink fluids, even while on the table, and fluids, particularly the fruit juices, are forced as soon as the patient is returned to the ward. In event of considerable loss of blood, the usual methods of replacement as transfusion, soda bicarb and glucose, Normet's solution, or plain saline are resorted to. These must be done early, before the patient is in extremis. Spinal analgesia has definitely proved itself to be less toxic to the kidneys, though experience in many clinics would seem to bear out the idea that the incidence of pulmonary complications has not been materially reduced over the inhalation form of anesthesia. We very seldom find it necessary to resort to morphine more than one day and night following operation. As soon as the patient is in bed about an hour we place him in the low Fowler position.

Immediate postoperative care necessitates control of hemorrhage. There are several methods. Some surgeons use a pack in the prostatic capsule after enucleation. In a large percentage of cases this is entirely unnecessary, particularly in those that are definitely not malignant and those that shell out easily. However in our clinic we prefer to use the Pilcher bag which is a modification of the familiar Barnes' bag of obstetrics. This is introduced at time of operation and the urethral tube drawn through the penis by the introducing staff. It is then filled with water and placed in the prostatic pouch. While it is being drawn down into place the torn edges of the capsule are tucked down under. The abdominal wound is drained by a large rubber tube down into the bladder alongside of the water tube of the bag. As the patient returns to his room a tripod is inserted between his legs and firm traction is made on the urethral tube. At the end of twelve hours the tripod is removed and traction released, only to reapply it if bleeding occurs. At the end of twenty-four hours we withdraw the water from the bag, still leaving it in situ where it is available for refilling and traction in event of delayed hemorrhage. By this means the patient is kept quite dry and comfortable. At the end of forty-eight hours the large drainage tube is withdrawn as well as the bag. As the tube is withdrawn through the urethra we stitch a No. 18 catheter to it and as soon as it appears in the bladder it is cut off and allowed to remain in the bladder for about a week. Instead of the large tube in the abdominal wall we now place a No. 30 dePezzer catheter and the patient is allowed to sit up on the fifth or sixth day. The patient should be dry by the third day.

By the end of a week it is time to think of using the urethra once more, and we therefore draw out the urethral catheter and clamp off the dePezzer for about an hour or so. At the end of this time the patient is instructed to try and void, and it is surprising to see how many of them will succeed the first time. In event they are unable to do so, we do not allow them to force it, so we release the dePezzer and the bladder is relieved in this manner. We try it again and as soon as the patient is able to void small quantities the dePezzer is withdrawn and the wound allowed to heal.

Since relief of stasis has been our principal worry we find that there is a definite pendulum that swings showing the variation of renal activity. If there has not been much back pressure, kidney failure is relatively slight, but even in these cases the function of the kidney is at a minimum on the third to fifth day and it is at this time that they must be watched very carefully to prevent collapse. In our hands we have not found anything that even nearly approaches the benefit of osteopathic treatment every hour or two.

In the event that the suprapubic wound does not close quickly enough, all that is necessary usually is a small amount of counterirritation. This may be done by roughening the wound with a sharp probe or the application of silver nitrate, although the best all-round stimulant in our hands has been Balsam of Peru. In order to prevent to some degree the possibility of a permanent fistula we prefer to make our incision just a little to the side of the midline and use a muscle-splitting type of wound, which utilizes the natural tendency of the recti to come together, and will go a long way towards minimizing the possibility of fistula.

We have had sufficient cases to draw definite conclusions at this time, and we know that we have definitely shortened the customary period of convalescence by about ten days to two weeks.

In conclusion we feel that osteopathy provides certainly the most efficient preoperative treatment known to man. We know that our hospitalization is definitely less, we know that the urethra returns to normal much quicker than under non-osteopathic care, and this holds true of any urinary surgery. We believe that as the knowledge of our therapy is more understood that we shall in the very near future rightly assume our place in the sun as the leading therapy in all surgical conditions.

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DIGGING DEEPER

History abounds with narratives of peoples having made use of those gifts of nature easily obtained from the surface of the earth. Gold, silver, copper and tin, the precious metals which could be fashioned into implements and ornaments, were mined and we cannot help but marvel at the ingenuity of those who lived so many years ago.

However, they were content with what was found near the earth's surface. With all the expertness manifested in the erection of great temples and tombs, which will be forever the marvel of engineering skill, yet we wonder why they did not dig deeper. If they had they would have discovered still greater wealth, which is being done today.

Many of us are like those who lived in ancient times. We are content with what skill we have obtained in practice and the privileges that have been won through the legislative efforts of a few.

There lies at our feet still greater wealth in the study of cause and effect of disease and in our abilities to correct human abnormalities, but some of us do not dig deep enough to get it. Either we are blind to our possibilities or we content ourselves with skimming the surface instead of getting the most out of our opportunities.

Those osteopathic physicians and surgeons who have dug down to these real veins of wealth have not only made ours the outstanding profession it is, but have personal satisfaction in good work well done.

The deeper we dig into it, the more wonderful does osteopathy prove itself to be.

VICTOR W. PURDY.

THE MUSCLE SPINDLES

The muscle spindles are the specialized sensory end-organs found in the muscle substance. Their structure and their reaction to stimulation give splendid illustrations of the function of the sensory end-organs concerned with proprioceptive sensation. Physiologists presume that the receptors in tendons, ligaments, and articular cartilage react similarly.[1]

The muscle spindle itself is described by Wright[2] as follows:

"This is a fusiform body lying between the muscle bundles, with its long axis parallel to them. It is 1 to 4 mm. long, and about 0.1 to 0.2 mm. in diameter. It consists of a connective tissue sheath within which are a number of undifferentiated muscle fibers—'intrafusal fibers.'

"Large nerve fibers pass to the spindle, break up into branches, and lose their medullary sheaths. The axis cylinders divide, and wind in a spiral manner round the intrafusal fibers. Presumably, changes in the tension of the muscle serve as a stimulus to the spindle; afferent impulses then pass along the motor nerves as described to the posterior nerve roots, their cell station being in the posterior root ganglion."

Adrian has demonstrated by the use of the capillary electrometer with valve amplification that tension on a muscle is the adequate stimulus to send a series of impulses over the nerve. The sternocutaneous muscle of the frog was used for the investigation. Strips of the muscle were cut away until eventually only a fragment remained. This fragment contained at least two end-organs and the impulses passing over the nerve from these end-organs were measured. The intervals between impulses depend on the intensity of the stretching. When pulled by a weight of 1 gram, the frequency of impulses was about 290 per second; with one-half a gram 200 per second; with one-quarter of a gram about 150 per second, each individual impulse being of the same size.

The sensory receptors in the spinal muscles and other postural structures have the ability to transmit impulses without fatigue or adaptation for a long period. They serve what are known as postural reflexes and are accustomed to reacting indefinitely to changes in tension.[4]

In a region of osteopathic lesion, the muscles and other tissues are held in a constant state of contracture and tension. The tissue tension and fixation constitute the pathology of the lesion and are its diagnostic criteria. The periarticular structures are maintained in this state of continued tension as long as the lesion remains. There would be, as a result, a constant flow of impulses going into the spinal centers from the area of lesion.

The nervous system does not tolerate constant stimulation without a disturbance of its function. Every physiologic stimulus received over the afferent system is of relatively short duration. Illustrations of the harmful effect of constant stimulation are many. The eyes cannot long withstand constant staring without blinking. The ears cannot endure a steady noise of one pitch and tone. The classical example of the major effect of a mild but constant stimulus is in the method of torture where a victim is bound in position and water allowed to drop slowly on the forehead until insanity develops.

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[1] Adrian, E. C.: The Basis of Sensation. Ed. 1, W. W. Norton & Co., Inc., 70 Fifth Ave., New York City, 1928, p. 61.

[2] Samson Wright: Applied Physiology. Ed. 2, Oxford University Press, 114 Fifth Ave., New York City, 1928, p. 28.

[3] C. Lovatt Evans: Recent Advances in Physiology. Ed. 4, P. Blakiston's Son & Co., Inc., 1012 Walnut St., Philadelphia, 1930, p. 235.

[4] Adrian, E. C.: The Basis of Sensation. Ed. 1, W. W. Norton & Co., Inc., 70 Fifth Ave., New York City, 1928, p. 80.

A pin prick on the skin, slight in itself, can become a major source of irritation if it endures for hours.

All these factors show how an area of purely mechanical structural irritation in a spinal center may exert a profound influence on the reflex mechanisms of a spinal center. Tissue tension is sufficient to initiate a series of impulses and the nature of the end-organs in postural muscles (which include the intrinsic spinal muscles) is such that they are physiologically accustomed to long periods of activity. The maintained tensions and pressures of the osteopathic lesion give the important element of constancy to the irritation. The few illustrations cited are sufficient to recall to mind the far-reaching effects on the nervous system of a comparatively mild irritation continued over a long period of time.

As the intricacies of the nervous system are gradually and painstakingly analyzed and understood, by research, the mechanism of the osteopathic lesion becomes more and more apparent, and its role in the cause and prolongation of disease more evident.

R. N. MacBain.

OSTEOPATHIC PATHOLOGY

Pathology is that branch of science which treats of disease, especially of the functional and structural changes associated with disease. The etiology, pathogenesis, manifestations, and results of disease are all included in the field of pathology. Many books have been written on pathology. Many aspects of disease have been studied exhaustively. However, one part of this great field has been left almost uncultivated. This is the study of disease as caused by and associated with structural disturbances. It is true that the pathology of fractures of bones has been well studied, but the pathology of sprains, strains, pressure conditions, and tissue tension has been neglected.

What is often termed osteopathic pathology is that part of this science which treats of disease as related to abnormal structural relations of tissues. The etiology, pathogenesis, manifestations, and results of structural perversions as related to disease are all included in the field of osteopathic pathology. Since the causes and results of vertebral strains have been found of interest in osteopathic practice, the pathology of these conditions is of particular importance. In osteopathic pathology, the study of sprains, strains, pressure conditions, and tissue tension is given especial consideration. It is, therefore, evident that osteopathic pathology occupies a field which has previously been neglected, which is of interest to every thoughtful person who studies disease, and particularly to those who are interested in osteopathy.

A series of papers which begins in this number of The Journal undertakes to give the facts which have, so far, been determined in osteopathic pathology. The field has not yet been completely covered; no field in pathology has. But these facts are useful in osteopathic diagnosis and osteopathic practice, and they are, therefore, published at this time.

Louisa Burns.

RESEARCH PROGRESS

Dean Edgar O. Holden of the Philadelphia College of Osteopathy, calls attention to the recent observations of Sir Herbert Morley Fletcher, secretary of the British Medical Research Council in respect to the practicability of much of the research work done in sciences important in the study of health and disease.

Among other interesting statements the honorable secretary is quoted as saying:

> The man on the street is apt to assume that if you put money down you can buy research work. But you cannot—any more than you can buy suddenly a great poem.
>
> The right conditions are only obtained after securing men with a special sort of imagination, and giving them the right training and opportunities, a reasonably secure livelihood and intellectual freedom. . . . A long-sighted and maintained policy must be adopted.

We might be permitted to interpolate here that not only the "man in the street" has had the idea that so much research work might be purchased, instanter, for so much money, but that the profession as well has held something of that attitude.

We have heard the A. T. Still Research Institute criticised because, although it has enjoyed the enthusiastic support of the osteopathic profession over a period of many years, there have been gaps of many months during which no pronouncement of newly and much desired discoveries have come forth. Of course such a criticism is invalid. If a research group promulgates and carries on a distinct policy and program of investigation along a certain line through competent and well trained workers, we have a right to expect work, investigation, but not by any means always immediate results in the way of irrefutable conclusions.

Sir Herbert Morley Fletcher says further that it is not always best to "make a frontal attack on cancer or rheumatism," but better to develop "particular applications of primary physiology and biochemistry which would assuredly bear fruit later on."

Again he says, "the new method of new clue that has helped to destroy a disease has again and again emerged from studying something outside that particular disease."

But the most significant paragraph is the following quotation:

> The weak link in the chain of our medical research occurs in clinical work—research in which the human patient is the material. This research should form part of the work of the professor of medicine in every university, but it does not, except in rare instances.

The paragraph needs to be read twice if its full meaning is to be derived.

We have long been impressed that the osteopathic profession has been too ready to accept much of the study of disease, the sequence of symptoms, their cause and effect as set down by older writers. That is, we have studied scarlet fever, smallpox, measles, etc., on a basis of old descriptions. And yet no one who has watched the varying types of influenza from year to year since the war time epi-

demic can doubt that either the old disease is changing its characteristics or that it was not previously properly and completely described and cataloged.

Then too, it seems entirely probable that we as a school of practice have been a little too self-satisfied. The methods of diagnosis and treatment which we use, whether they originated in our school of thinking or elsewhere, have been so successful when compared to earlier and contemporary methods, that we are a little prone to be content. For this reason, perhaps more than any other, the study of disease has been left to others. We were willing and able to bring relief and were satisfied with our methods of doing so. These methods were obviously superior to those of other practitioners.

Then, too, it seems likely that such satisfaction did prevent for a time that intensive study into our own particular field of treatment, that is manipulation, to the degree which might have been expected. Most observers agree that we have not attempted to accomplish by manipulation many of the things we shall eventually use as routine.

With all this in mind we call to your attention two or three movements which are indicative of the newer activity along these lines.

We have said many times, and we believe it is undisputed by those who have looked into the situation closely, that more time and better pedagogy is devoted to the definite teaching of osteopathic technic than ever before. But there is evidence that the teaching staffs are not yet content.

We may cite three examples: The Philadelphia College of Osteopathy is now, after several years of studying the situation, entirely rearranging the outpatient clinic and revising the case recording system in order to make a more intelligent study of the varying pathological conditions presented and more particularly the effects of manipulation upon those conditions. In addition, and perhaps even more important, they are setting the problem of determining the effects upon normal physiology of definite manipulative procedures. That is, what change is produced in normal physiologic activity in the human body by the definite manipulative procedure common to osteopathic "treatment."

Certain easily measured functions will be studied first, such as heart rate and rhythm, blood pressure variations, respiratory rates and volume and basal metabolism. They realize thoroughly that, if we are correct in our assumptions (yes, we know research doesn't "assume") it should be much more difficult to disturb normal function by manipulation, or any other measure, than it is to restore abnormal function to normal. Nature tends to prevent the disturbance of the normal physiology and to restore any deviation from that line of activity.

But out of such study, as was suggested by the researcher earlier quoted, may come the "clue" to new fields of manipulatory effort.

Last year the Chicago College clinic staff set for itself a problem of the study of one particular disease entity in an effort to determine the definite effects of certain manipulatory treatment thereon. At the same time they attempted to exclude in certain cases every other therapeutic measure which might complicate the findings. After months of work they were dissatisfied with their premises and many details of procedure. They immediately set to work to iron out the weak spots in their problem and are again launched upon a program of study which may result in definite findings.

At the Kirksville College of Osteopathy and Surgery Dr. George Laughlin has made available the well equipped laboratories of that institution to carefully selected workers who have set themselves a different problem. They will produce in animals, spinal lesion in certain selected areas. Thereafter, using proper comparative controls they will inoculate the animals with various organisms which produce pathologies in the respiratory tract. From such studies it seems entirely possible that valuable data may be obtained.

We could go on at length in citing the spirit of recrudescence in research lines. But we shall mention but one other in this somewhat lengthy dissertation.

Coöperating with the three sets of problems cited above the A. T. Still Research Institute, through a proper committee, is studying the problems which these institutions have set, offering suggestions as to details and methods and helping to synchronize the whole effort.

The research activities of the profession have not ceased. They are in the process of reorganization and rearrangement in the light of the present-day need. More workers and more facilities for the work than ever before are available. Without waiting for the liberal endowment, which by the way may not be so far off, some of the best brains and energy in the profession are turning to that work. If we do not have result this year we shall have them later.

R. C. Mc.

MEMBERSHIP

Statistics show that membership in the American Medical Association had grown in the one year previous to May, 1932, approximately seven-tenths of one per cent to a membership of 99,470. We estimate that this is about two-thirds of the practitioners of medicine eligible for membership in that organization in the United States today. Most of us know that membership in the American Medical Association is not a matter of dues payment. Dues are paid to city, county, and state subsidiary organzations, membership in which is obligatory for members of the American Medical Association. This association has out of its members a large group of "fellows" who do pay a yearly sum covering their subscription to the *Journal of the American Medical Association.*

During the period referred to above, the Ameri-

can Osteopathic Association held its own in numbers without appreciable growth or decrease. Some members resigned and new ones took their places. Since that time there has been an appreciable decline in the membership of the Association. Careful observation leads us to believe that this decline has come about because of the depression. Incomes of physicians all over the country have been materially decreased. While the state of public health has been good, most osteopathic physicians are doing a practice only slightly decreased in amount. The rub comes in that collections for such services are almost impossible to obtain. Slightly less than half of the regularly licensed practicing osteopathic physicians in this country are members of the American Osteopathic Association.

It is not sufficient that osteopathy shall be as well organized as so-called "old-school" medicine. Since there are fewer practitioners to do the organization work, a larger proportion of the work falls upon each individual member. Be sure that organized osteopathy is under obligation to undertake practically every form of activity which organized allopathic medicine finds itself under the necessity of attacking. Practically every problem that is offered to one group is offered to the other.

Another observation is also pertinent. It is obvious to any one of very general acquaintance in the osteopathic profession that its members are first of all physicians, interested in caring for the health of those entrusted to them. Organization interests and the good which may be done to humanity through that organization is, in the minds of most osteopathic practitioners, secondary. Their minds are so fully occupied with the detailed care of sick people and with the prevention of disease in well individuals that it is a distinct wrench to turn attention and time and effort to ways and means of doing good for this same group of people through collective action.

We believe that all state and national associations of osteopathic physicians are guilty of having failed to call to the attention of the individual practitioner the absolute necessity of organization in order to make osteopathy available in the highest degree to the greatest number of people. It is interesting to note that those most interested in state and national organizations are those who know most about the activities of those associations. These activities are detailed from time to time in the publications, but by far the greatest amount of effort of state and national associations never comes to the attention of the individual member. By nature, much of it cannot be publicized. There is no necessity for much of the rest of it to be heralded. It goes on quietly and effectively, accomplishing results, but such efficiency does not make for headlines and therefore does not always come to the attention of individual members of the profession who are apt to overlook all the activity necessitated by the growth of a new profession.

R. C. Mc.

EDUCATION

A new class of osteopathic graduates has just quitted our educational institutions and most of them have faced the ordeal of examination before a state board of examiners. Doubtless most of these graduates have breathed a well-earned sigh of relief with something of the sentiment in mind that education is completed.

If these graduates have been too wise so to congratulate themselves, no doubt at least most of us had that idea at one time. And most of us have had a change of mind.

"Education is not a possession but a process." A nimble mind is required to keep pace with the corrections and additions which science adds to an already acquired store of knowledge.

About the worst mistake a physician can make is to assume at any stage in his career that he is, at last, educated. Such complacency, such self-satisfaction, such sufficiency is evidence either of a softening and fatuous mind or of a colossal egotism.

And the situation is just the same whether this stasis in the educational stream comes about from indolence or from lack of easy opportunity for study.

The facilities for graduate study in so-called "old school" medicine are deplorably inadequate. In osteopathy, the opportunity is less. Many well meaning osteopathic physicians have been criticised for obtaining added didactic and clinic work in allopathic medical institutions when, as a matter of fact, this was apparently the easiest method of obtaining such specialized study and of furthering the educational process.

Be that course right or wrong, we need to establish some methods by which graduates of all degrees of practical field experience may take longer courses of instruction when time and finances permit.

We are not without some opportunity along that line. Review courses offered in connection with our schools do help. The frequent convention attendant is nearly always the better physician. The literature of our own school of practice and of the various scientific subjects is available—hard reading of course; verbose, certainly, but the kernel is worth the effort.

In other words, advance in the educational process is possible for all.

It isn't easy but it is possible. A tremendous amount of devotion and courage is demanded of the seeker for new knowledge. But then, those two qualifications have been sine qua non requisite with all physicians since time began.

R. C. Mc.

We begin to learn at least as soon as we begin to live; very probably the learning process commences some time before birth. It does not appear probable that we cease to learn until we are in the actual clutches of death.—Knight Dunlap in "Habits."

EACH FOR ALL—ALL FOR EACH

The osteopathic profession, much as it is given to talking about mechanical concepts, is not after all a machine-like organization. It is rather a living organism, the difference being that the organism has sensibility. If it is injured in one part, it hurts all over. The whole organism at once suffers.

It is conceivable that an automobile, a machine, will function nearly as well with a shattered windshield. But if our osteopathic colleges function poorly, the profession suffers malnutrition. If a state law is inadequate, the organism suffers underoxygenation. If national or state association is inadequate, the whole nervous system of the organism shrieks in protest.

Therefore, this organic profession cannot be neglected in any of its component parts. It is almost as important to the members of the profession in Ohio that the laws governing the practice of osteopathy in the State of Washington shall be adequate and just, as it is that the law in Ohio be right. It is almost, if not equally, as important to the profession in New York City that the Dallas, Texas, association keep up proper public relations as it is that the New York City Public Relations committee function perfectly.

Any other view is narrow and, worse, absolutely incorrect.

As a profession we are not "just one big family." The components of a family disagree among themselves and eventually fly apart. The profession is an organism. It cannot be seriously hurt in one part without injuring or destroying the whole. The analogy carries through, all the way from the individual member, throughout the whole profession.

Sometimes pathologies are present, and no group ought to be more able to handle such pathologies conservatively and still effectively. Certainly in our progress we have been called upon to do very little major surgery and almost no amputations. We have lost a little by desquamation and we have occasionally been singed but the scars are healing.

R. C. Mc.

ONTARIO

For a long time two associations of osteopathic physicians have existed in the Province of Ontario, one only had been chartered by the American Osteopathic Association. Many members of both organizations have been members in good standing of the American Osteopathic Association.

During 1932 the profession in Ontario came to a decision that there would be great advantage in combining the forces of the two organizations, and consequently there was organized the Ontario Academy of Osteopathy. With the consent of both preexisting organizations, the Ontario Academy of Osteopathy has been made, by order of the Executive Committee, the regularly chartered divisional society of the Association in the Province.

Forrester Moore of Hamilton, and N. J. Neilson of Toronto, are president and secretary respectively of this new divisional society which will select the proper number of delegates to the House of Delegates at the forthcoming Milwaukee convention.

It is expected that the profession in Ontario will go forward rapidly, and it is to be hoped that they will shortly be able to secure an amendment to the laws of the Province governing the practice of osteopathy in such a way that the public of the Province may more readily avail themselves of the service which osteopathy has to offer.

R. C. Mc.

GIFT TO STUDENT LOAN FUND

Last year Dr. Edgar W. Culley, Melbourne, Victoria, Australia, made a gift to the Student Loan Fund Committee of the American Osteopathic Association, of very material value. It is to be remembered that the Student Loan Fund Committee of the Association sponsors this fund for the American Osteopathic Foundation, plans and executes the campaign for collection of the fund, and allots the individual loans.

So far Dr. Culley has made the most substantial single gift to the fund.

Dr. Culley selected this particular form of philanthropy after having advised with several members of the profession as to the various programs that might be expected to further professional interests.

The Student Loan Fund Committee of the Association called this gift to the attention of the Board of Trustees of the A.O.A. and in recognition of Dr. Culley's distinct contribution to the good of the profession, and his long service as a practitioner of osteopathy, the Executive Committee of the Board of Trustees has just elected Dr. Culley to life membership in the Association.

The immediately forthcoming directory of the Association will carry Dr. Culley's name as the latest addition to that list.

R. C. Mc.

EXECUTIVE COMMITTEE MEETING

The Executive Committee of the American Osteopathic Association held its semi-annual meeting in Chicago, December 31, 1932, and January 1, 1933. Those in attendance were:

V. W. Purdy, President.
Perrin T. Wilson, First Vice President.
Arthur D. Becker, Past President.
John E. Rogers, Chairman of Department of Professional Affairs.
E. A. Ward, Chairman of Department of Public Affairs.
R. C. McCaughan, Executive Secretary.

Ray G. Hulburt, Editor, and C. N. Clark, Treasurer, were present to lend advice and assistance.

Ira W. Drew and Chester Morris, members of the Board of Trustees, were present for the purpose of making communications to the Committee.

This meeting, as arranged, was another one of those intensive business sessions, so characteristic of the Trustees of the Association, in which a maximum of work was accomplished with a certainty and a speed attendant

upon previous knowledge of the affairs to be discussed.

Among the reports discussed and acted upon, three or four stand out because of their conclusions and the work necessary to arrive thereat.

S. V. Robuck, reporting for the Bureau on Convention Program, showed the Milwaukee Convention Program well under way with most of the major items already settled upon. The Milwaukee Convention Committee report, one of the most business-like and complete imaginable, showed the Milwaukee group already ahead of their schedule and eagerly awaiting the time when the remainder of their problems can be attacked. Already we may say that the only major problem in connection with that convention is the number of registrants.

H. F. Garfield, chairman of a special committee on professional insurance (so-called malpractice insurance) submitted a voluminous study of the whole insurance problem, a study which should be most carefully considered by every member of the profession when it can, a little later, be published.

Howard E. Lamb, reporting for the Committee on National Publicity and Fund Raising, presented a voluminous report and the collection of a mass of statistics relative to the need for funds by various osteopathic institutions, together with a tentative plan of action preparatory to a fund raising campaign.

The special commission on the portion of the Code of Ethics dealing with advertising also submitted the results of its study. At the proper time this report will be published so that the delegates to the House may study it before acting thereon at Milwaukee.

The Board of Trustees has come to expect detailed and carefully worked out reports from its regular departments, bureaus and special committees and it is rarely disappointed. The work of these various groups was all well presented and showed the definite progress made since the Detroit meeting in carrying out the directions of the House of Delegates at that convention.

John E. Rogers, Chairman of the Department of Professional Affairs; E. A. Ward, Chairman of the Department of Public Affairs; Ray G. Hulburt, Editor; C. N. Clark, Treasurer, and the Executive Secretary brought these reports to the attention of the committee.

A very considerable saving has been effected over the estimated expense budget for the first half of the fiscal year and an even greater saving is contemplated in the rearranged budget for the remaining five months. This saving has been effected without lessening the service to members, the demand for which steadily increases.

The reports of the Legislative Adviser in State Affairs and the Public Relations Committee bring clearly to light the desperate legislative and legal situation in many states. The requests for help and advice have almost swamped the facilities of these two groups who have devoted an immense amount of skill, energy and time to answering every request for help. No service has been refused to a member or non-member of the Association.

Ten new members were nominated from among whom the board of the A. T. Still Research Institute will select five members of its Board. They are: Hugh W. Conklin, George V. Webster, S. V. Robuck, V. W. Purdy, A. D. Becker, Robert D. Emery, Jennie Alice Ryel, Della B. Caldwell, George M. McCole, Arthur E. Allen.

The Board of Trustees of the A. O. A. is also charged with the duty, once in three years, of nominating for the consideration of the board of the American Osteopathic Foundation, one member. Dr. S. V. Robuck, at present a member of the board of the Foundation, was so nominated. Dr. Robuck is the president of the Foundation. Dr. R. H. Singleton is its efficient secretary.

R. C. McCAUGHAN,
Executive Secretary.

American Osteopathic Association

1932 - 1933

*President—Victor W. Purdy, 725 Caswell Bldg., Milwaukee.
*Past President—Arthur D. Becker, 505 S. Davis St., Kirksville, Mo.
*First Vice President—Perrin T. Wilson, 1626 Massachusetts Ave., Cambridge, Mass.
Second Vice President—J. J. Dunning, 64, Brook St., London, W.1.
Third Vice President—Louise M. Jones, 142 High St., Portland, Me.

*Secretary—Russell C. McCaughan, 430 N. Michigan Ave., Chicago.
Treasurer—Clayton N. Clark, 430 N. Michigan Ave., Chicago.
Editor—Ray G. Hulburt, 430 N. Michigan Ave., Chicago.

TRUSTEES

Term Expires 1933

Ira W. Drew, 6024 Wayne Ave., Philadelphia.
*John E. Rogers, 411 First National Bank Bldg., Oshkosh, Wis.
Percy E. Roscoe, 1001 Huron Road, Cleveland.
Chester H. Morris, 58 E. Washington St., Chicago.
George J. Conley, 29th and Flora Ave., Kansas City.

Term Expires 1934

Preston W. Gibson, 203 First National Bldg., Winfield, Kan.
Phil R. Russell, 602 Floyd J. Holmes Bldg., Fort Worth, Tex.
Otho Y. Yowell, Hamilton National Bank Bldg., Chattanooga, Tenn.
Louis C. Chandler, 600 Edwards-Wildey Bldg., Los Angeles.
*E. A. Ward, Second National Bank Bldg., Saginaw, Mich.

Term Expires 1935

A. G. Chappell, 461 St. James Bldg., Jacksonville, Fla.
Canada Wendell, 610 Lehmann Bldg., Peoria, Ill.
Thomas R. Thorburn, 101 W. 57th St., New York.
Edward S. Merrill, 609 S. Grand Ave., Los Angeles.
Arthur E. Allen, 1127 Metropolitan Bank Bldg., Minneapolis.
*Member of Executive Committee.

DEPARTMENT OF PROFESSIONAL AFFAIRS

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Bureau of Professional Education and Colleges—John E. Rogers.
Committee on College Inspection—John E. Rogers.
Bureau of Hospitals—George J. Conley.
Bureau of Convention Program—S. V. Robuck.
Bureau of Professional Development—Arthur E. Allen.
Bureau of Censorship—P. W. Gibson.
Committee on American Osteopathic Foundation—R. H. Singleton.
Committee on Credentials—Canada Wendell, Arthur E. Allen, O. Y. Yowell.
Committee on Osteopathic Educational Films—H. Willard Sterrett.

DEPARTMENT OF PUBLIC AFFAIRS

E. A. Ward, Chairman

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Bureau of Clinics—Ira W. Drew.
Bureau of Public Health and Education—Phil R. Russell.
Legislative Adviser in State Affairs—Arthur G. Chappell.
Committee on Osteopathic Exhibit Demonstration Clinics—Della B. Caldwell.
Committee on Osteopathic Exhibit in National Museum—Riley D. Moore.
Committee on Osteopathic Film Publicity—O. Y. Yowell.

SPECIAL COMMITTEES UNDER NO BUREAU

Committee on Public Relations—C. D. Swope, chairman.
Committee on National Publicity and Fund Raising Campaign—V. W. Purdy, R. H. Singleton, E. A. Green, Hugh W. Conklin, Howard E. Lamb, secretary.
Advisory Committee on Finance, Membership, Advertising—C. H. Morris, James M. Fraser.
Committee on Transportation for 1933 Convention—P. E. Roscoe.
Committee on A. T. Still Memorial Project—Harry Semones, P. W. Gibson, Elizabeth Broach.
Committee on Century of Progress Exposition—James M. Fraser, Russell Peckham, S. V. Robuck, H. L. Collins, E. R. Proctor, R. C. McCaughan.
Chicago Advisory Committee on O.W.N.A. Century of Progress Participation—James M. Fraser and Fannie Carpenter.
Committee on Hospital-Public Relations—L. C. Chandler, Glen D. Cayler, E. A. Green.
Committee on Distinguished Service Certificates—O. Y. Yowell.
Committee on Student Loan Fund—E. R. Proctor (1934), James M. Fraser (1933), Canada Wendell (1935), R. C. McCaughan and C. N. Clark, ex officio.
Committee on Hood of Osteopathy—John E. Rogers, R. C. McCaughan, H. B. Somerville.
Commission on Code of Ethics—A. D. Becker, H. I. Magoun, H. L. Chiles.
Committee on Constitution and By-Laws—C. D. Swope, R. B. Gilmour, John A. MacDonald, R. C. McCaughan.
Committee on Professional Liability Insurance—H. F. Garfield, Walter S. Grow, William W. W. Pritchard.
Committee on Radio Censorship—H. J. Pocock, H. V. Hillman, C. D. Losee.

GENERAL CONVENTION ARRANGEMENTS

For many months the Central office and the Milwaukee Convention Committee have been laboring to complete the arrangements for one of the best A.O.A. conventions ever held. Nothing has been overlooked that will give our members every comfort and facilitate the handling of both the entertainment and the convention program.

The Hotel Schroeder is a modern hotel in every respect, complete in all its appointments. Its room accommodations and service are of the best. The main dining room and coffee shop offer the most excellent

HOTEL SCHROEDER—CONVENTION HEADQUARTERS

cuisine at moderate prices. The hotel is convenient to all transportation and points of interest.

The general sessions will be held in the ballroom, on the fifth floor of the Hotel Schroeder. Most of the remaining space on this floor will be devoted to the exhibits, leaving ample room for registration and information, with special rooms assigned for college exhibits, student headquarters, and the fraternities and sororities. Special offices are set aside for the A.O.A. local committee and the Program Chairman.

It will be noted that the shoe exhibits are to be held in the end of the exhibit hall, connecting with the foot section, in order to facilitate a close working relationship between the shoe exhibitors and the foot section, which will be an advantage to both.

On the floor below will be rooms for the Trustees, for the Associated Colleges and for many of the sections. Clinics also will be held on the fourth floor. Special meetings and more sections will be held on other floors.

On the opposite page is a reproduction of the fifth floor, showing the exhibit booths, with the names of the exhibitors who have already reserved space. This by no means represents the total number of exhibitors as the sales of this space have only just begun. By July we anticipate that all of the spaces shown will be occupied. We append a list of those who have had the foresight to sign up early and so obtain choice spaces.

	BOOTH
Alphaden Co.	74
A. S. Aloe Co.	3
Battle Creek Food Co.	1
Becton, Dickinson & Co.	4-A
Bristol Myers Co.	8
Britesun, Inc.	12
Cameron Surgical Spec. Co.	7
R. B. Davis Co.	43
Denver Chemical Co.	17
DeVilbiss Co.	39
Dickerson Co., The Walker T.	48
General Electric X-Ray Corp.	16
Gerber Products Co.	5
The Hager Company	22
Health Products Corp.	11
Horlick's Malted Milk Corp.	19
Kalak Water Co. of N. Y.	73
Geo. E. Keith Co.	51
Kellogg Company	13
Lockwedge Shoe Corp.	53 & 54
McManis Table Co.	61 & 62
Mellin's Food Co.	9
Menley & James, Ltd.	37
Musebeck Shoe Co.	60
Nettleship Company	20 & 21
Numotizine, Inc.	10
Nunn Bush & Weldon Shoe Co.	49
Plaster Belt Co.	71
Chas. H. Phillips Co.	42
Ralston Purina Co.	15
Reed & Carnrick	38
Schering Corporation	35
Sharp & Smith	3
S. M. A. Corporation	41
The Wander Company	2

C.N.C.

MILWAUKEE PLANS DEVELOPING

The report of Dr. S. V. Robuck, Chairman of the Bureau of Convention Program for the Milwaukee Convention, which was presented to the Executive Committee at its recent meeting, is full of items of interest to the whole profession. Dr. Robuck has obtained excellent cooperation from many members of the profession. If the acceptance of invitations to appear upon this program is any indication there will be an excellent attendance at this thirty-seventh annual session.

Physicians in various fields of practice who have a message, in most instances based upon considerable experience, have been invited to appear on this program. They have been requested to base their manuscripts upon practical observation and to dwell at length upon the mechanical factor in diagnosis and treatment. Plans are being made to illustrate some of these talks on the screen. A practicing dentist will present that angle of the healing art as it relates to the general practitioner. His paper will be supplemented by still pictures.

Except for those sections which will hold clinic sessions, the sectional programs will be held in the afternoon each day from 4 to 6. Present plans call for early morning clinical meetings of the eye, ear, nose and throat section and the proctological group. The technic section is scheduled to have morning programs from 8:45 to 9:45 in the grand ballroom of the Hotel Schroeder.

The general program will hold the board from 10 a. m. to 12 m. and from 2 until 3:30 in the afternoon. The noon hour and the half hour between 3:30 and 4 afford all physicians an opportunity to acquaint themselves with the exhibits.

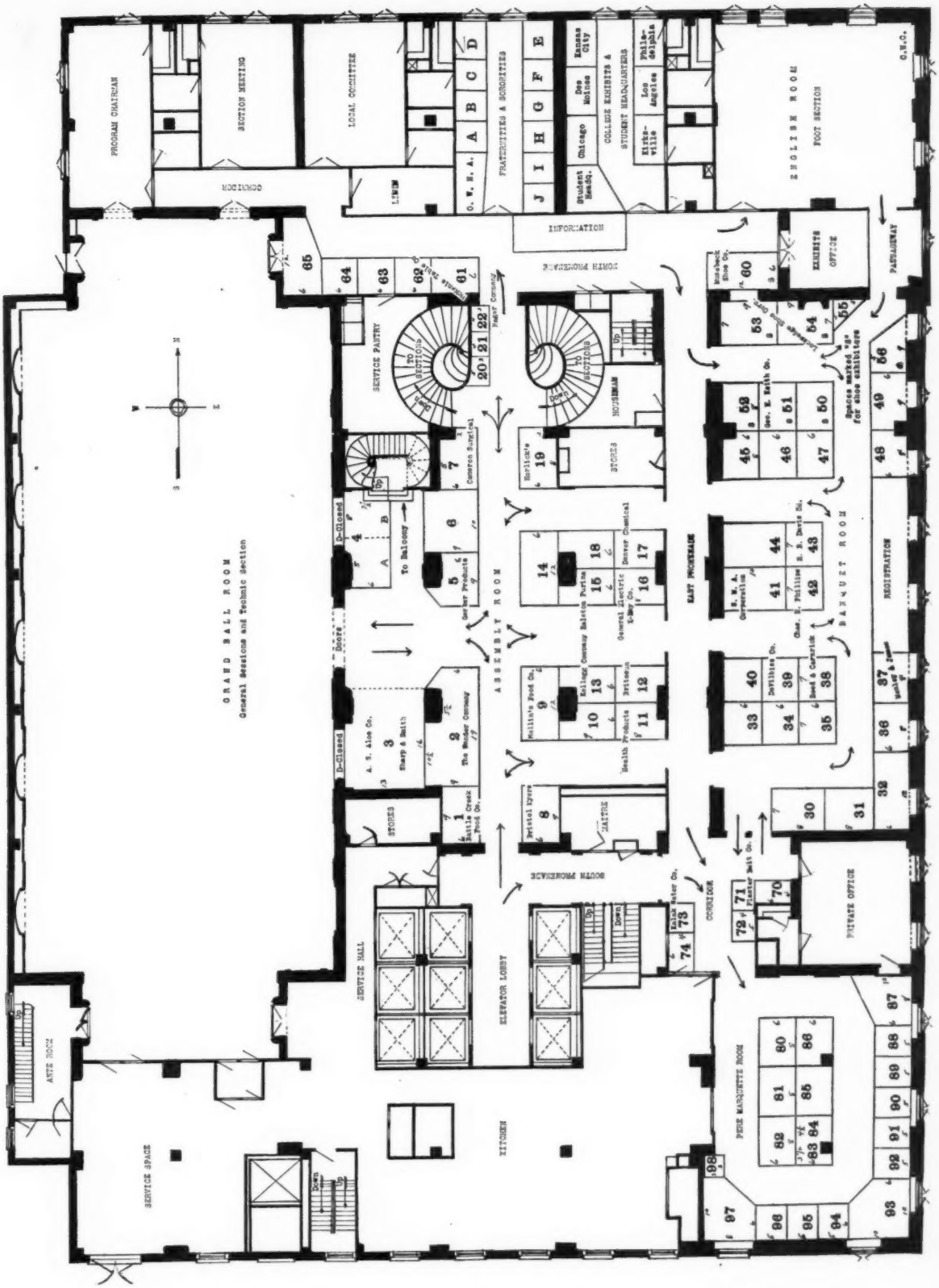
Much of interest to the whole profession has previously been given to necessarily small sections, and it is the hope that this year's program will give to the general practitioner something of value in the whole field of practice.

While advance notices seem to indicate that some of the most attractive features of the convention will be held on Friday, the last day of the convention, still the program is being arranged in order to complete every detail of the convention and adjourn about the middle of that afternoon.

The Chicago Osteopathic Society has invited the profession to participate in an organized trip from Milwaukee to Chicago that afternoon. Headquarters at the Drake Hotel in Chicago have been arranged for. A special inexpensive buffet supper will be served there, followed by a special lake trip which will take in the Chicago coastline and the brilliantly lighted Century of Progress grounds, which extend three miles along Lake Michigan.

The Chicago Society members will act as guides and

(Continued on page 238)



PLAN OF CONVENTION FLOOR, SHOWING EXHIBITORS' BOOTHS, GENERAL SESSION HALL, AND OTHER SPACE ASSIGNMENTS

receptionists for this evening's entertainment. On the following morning, Saturday, a specially escorted party, which it is hoped will include every A. O. A. convention attendant, will visit the Hall of Science Auditorium at the Century of Progress Fair Grounds, where an official welcome will be given to the Association party.

It is to be expected that practically all who attend the convention will immediately thereafter visit the Century of Progress. The reception in the Exposition grounds ought to be good publicity for osteopathy.

The entertainment of Association members and their guests at Milwaukee must not be overlooked. The Milwaukee Convention Committee already has under consideration elaborate plans for this entertainment.

The President's reception and dance coming on Monday evening, the first day of the convention is, of course, an established tradition in the Association, and this year will be no exception. The present plan is to devote Tuesday evening to fraternities, sororities and other reunions. The plans under consideration for Wednesday evening have not matured far enough to make sure which of several projected events seems most desirable. It will not be wasted. Thursday evening another event of great social interest will occur. While the final details of this entertainment have not been decided upon, it seems most probable that the choice will fall upon an informal banquet and dance with added entertainment features.

Throughout the week the women and other guests and non-professional folks will be well cared for.

Many good things are planned, but it would not do to reveal them all just yet. From time to time you may expect to have your appetite for the convention whetted by other tantalizing and tempting details.

SORORITY AND FRATERNITY SOCIAL NIGHT

Tuesday night will be set aside for sororities and fraternities to hold their meetings.

Those in responsible position should contact W. B. Truax, 324 E. Wisconsin Ave., Milwaukee, chairman of the convention committee, immediately. Give him an estimate of the probable size of your attendance and the kind of arrangements you wish made.

Your early cooperation will aid your hosts, the Milwaukee osteopathic physicians, to give you the most efficient and satisfactory service. Belated arrangements are likely to be disappointing.

S. V. R.

A Century of Progress—Chicago's 1933 World's Fair—at night, as viewed by an artist. This photograph is made from the painting by Morton R. Addy, Chicago artist, and shows the north half of the exposition grounds as it will look—a symphony of colored illumination. In the foreground is Lake Michigan, in the center, North and South Lagoons, spanned by the cables of the sky ride—outstanding thrill of the Fair. Clustered about the shores of lake and lagoons are the halls, courts, pavilions and towers of a wonder city—painted in many ever-changing colors. On these 424 acres of land and water next year Chicago will celebrate the hundredth anniversary of its incorporation as a town, as well as the advance accomplished by mankind during the same hundred years through the application of scientific principles.

Department of Professional Affairs

JOHN E. ROGERS, Chairman
Oshkosh, Wis.

BUREAU OF HOSPITALS

GEORGE J. CONLEY, Chairman
Lakeside Hospital, Kansas City, Mo.

TRAINING CANDIDATES FOR SPECIALTIES

"Where can I get training in major surgery?" This is the fairly constant cry reaching us from the men in the field of general practice. The same condition prevails with respect to the other specialties, though in lesser degree.

Determined candidates for such training come along willing to pay a goodly sum in return for the privilege of serving a year as first assistant to a competent surgeon. Others feel that a month's experience in such a capacity will suffice. Still others feel that mere observation, covering a shorter period time is all that is necessary to round them out into full-fledged surgeons.

Be that as it may, the fact is evident that there is a demand for intensive training in the specialties, and that, for major surgery, it is especially hard to attain.

That there is need for modern osteopathic hospitals in all our large centers of population is most evident. That we lack competent men to man the various departments is equally obvious. It is also obvious that if the prestige of osteopathy is to be maintained, these needed institutions must be prepared to meet the competition and the quality of professional service current in those communities.

It is equally plain to us that an incompetent specialist can do a great deal of harm to the progress of osteopathy by assaying to practice what must of necessity be an inferior brand of the specialty which he represents.

Hence, the basic problem of more institutions depends upon the question of training competent doctors to man them.

In response to the query as to where ambitious, deserving men can get this needed intensive training, candor compels the answer, "I do not know."

Our present institutions are caring already for as many candidates for special training as the volume of their business justifies. To add more to this number without increasing the volume of business would react detrimentally to all. It would be foolish to attempt it.

What then is to be done? There is but one answer. The volume of business must be built up to the maximum in our present institutions to meet, in so far as is possible, the demands made upon them for such training.

No existing osteopathic institution is caring for but a small percentage of the work demanding hospitalization that originates in osteopathic sources in its locality. The bulk of practice is either being urged to refrain from hospitalization or else is allowed to drift into medically controlled hospitals or is deliberately sent there for commercial gain.

Every osteopathic hospital now in existence is too small to care for the business that would go to it were all osteopathic physicians alert to the needs of their patients, the demands of their profession, and one hundred per cent loyal to their institutions.

This condition is not local to any community. It exists east, west, north and south.

Established surgeons as a rule are willing to train deserving men. Even now they are doing it to the limit of the capacity justified by the volume of their work. They cannot do more than that. They must have help. They must have the active cooperation of the doctors contacting hospital business at its source, i. e., the patient.

The problem then resolves itself back to the attitude of the rank and file of our general practitioners toward their institutions. Upon them rests the burden of the responsibility for directing their hospital business into osteopathic institutions. In no other way can an adequate volume of business be obtained to justify an increase in the training capacity of our hospitals.

If individual members of the profession desire additional training or expect to qualify for the specialties, then they must be on the alert to urge their brother practitioners to send all their hospital patients to osteopathic institutions. Then they may expect to find opportunity to gratify their desire for such training.

G. J. C.

Department of Public Affairs

E. A. WARD, Chairman
Saginaw, Mich.

LEGAL AND LEGISLATIVE

CHIROPRACTICE LOSES IN ARIZONA ELECTION

An attempt to pass a chiropractic act by means of the initiative at the November election in Arizona failed.

NO CLINICS IN CHURCHES—CALIFORNIA

A clinic was established in a Methodist church in Los Angeles some months ago, but it soon developed that a church is tax exempt only when used for purposes of worship and the practice of medicine or osteopathy does not seem to be included in the definition of worship, even though it is done for charity. The county tax assessor produced some judicial decisions between some of which there seems to be conflict, but apparently there had been no Supreme Court decision actually defining the word "worship". The clinic, therefore, was moved to the Masonic hall upon which taxes are being paid.

THAT ILLINOIS CONTAGION HOSPITAL

As reported in THE JOURNAL for July (p. 455) the way had at last been cleared for really barring osteopathic physicians from practice in the city public hospital at Decatur, Ill., which had been closed nearly all the time since its acceptance by the city in February, 1931 (JOUR. AM. OSTEO. ASSN. Feb., 1931, p. 254; Nov., 1931, p. 104; April, 1932, p. 316).

The attorney general had ruled that the hospital board had no right to bar osteopathic physicians from treating their patients in the city public hospital. He had also ruled that osteopathic physicians cannot use drugs or surgery. The allopaths ruled that the rules regulating the hospital were in the domain of the board, and so long as osteopathic physicians could go in, they would stay out. Therefore, the only patient treated in the hospital during a period of nearly two years was one brought by a non-member of the medical society. At last it was discovered that the hospital, which had all along been referred to as a "contagion" hospital, wasn't that at all because the proposition upon which the citizens voted to authorize it called it merely a "public" hospital. So it was decided that this building should be known as Unit No. 1 of a theoretical general public hospital, the other units of which "may be added as necessity is felt".

That opened the way for the board to pass a rule on November 11 that virtually barred osteopathic physicians, for the time at least, and by December 2, seven patients had been admitted.

ANTI-ACID POWDER INTERNAL CURATIVE MEDICINE—IOWA

The Supreme Court of Iowa has ruled against an osteopathic physician who appealed a case in which a lower court had issued an injunction against her practicing medicine.

The doctor had recommended that a patient purchase at a drug store, a powder made up of baking soda, magnesium and bismuth to neutralize the gas in his digestive tract. He was not charged for the advice. Another individual seeking evidence went to the doctor, induced her to write a prescription and paid for it. On the basis of this evidence the action was started and carried through. The osteopathic contention was that the powder was not internal curative medicine as contemplated by the law of Iowa.

KANSAS PUBLIC HOSPITALS

H. C. Wallace, Wichita, reports that patients preferring osteopathic care are permitted to have it in the Sedgwick County hospital. Prior to the opening of the county hospital county patients were cared for in the various hospitals of Wichita, according to the choice of the patient and his physician. The county hospital was opened last spring and all county patients were to be taken care of there. Unknown to the osteopathic profession, allopathic doctors objected to their presence at the county hospital and so patients preferring osteopathy were still permitted to go to the Southwestern Osteopathic Hospital. When a taxpayers' league began to investigate expenses, they objected to this procedure and the county commissioners passed a resolution requiring all patients to go to the county hospital. The next patient of an osteopathic physician who went to the commissioner of the poor for hospital care was sent to the county hospital and cared for by an allopathic physician. As a result a committee from the Southwestern Osteopathic Hospital board called on the commissioner and said they would expect to have the same privilege of attending cases at the county hospital, and on the same basis as other physicians. The commissioner expressed the fear that if the county hospital were opened to osteopathy the allopaths would refuse to work there. The Wichita Osteopathic Society sent a committee to inform the commissioners formally that in such contingency the Wichita Osteopathic Society would furnish a staff and take charge of the hospital on the same basis as it was then running and that they would be perfectly willing for any allopathic physician to work in the institution as in the past. It was at the same time pointed out to the commissioners that the Kansas law provides "that there shall be no discrimination between schools of practice or patients in any hospital supported wholly or in part by taxation."

Dr. Wallace says: "The commissioners voted unanimously to open the Sedgwick County Hospital to osteopathic physicians and surgeons on the same terms as to the medical profession and the superintendent of the hospital was so informed. We have done some surgical work in the hospital since this ruling and so far there has been no confusion or complaint and the nurses and employees of the institution have given us every consideration we could ask."

PUBLIC HOSPITALS IN MAINE

Representatives of the osteopathic profession asked the state budget committee of Maine to withhold state aid funds from the Maine General Hospital, the Children's Hospital and the Eye and Ear Infirmary of Portland, unless osteopathic physicians and their patients are admitted to those hospitals. Their attorney pointed out that osteopathic physicians have been recognized by the legislature; that with other citizens they pay their taxes to make up the funds which the legislature grants to the various hospitals, and yet that "they are flatly denied the right to set foot in those hospitals and are not permitted to take their patients there." He added that a patient in one of those hospitals even if he desired osteopathic treatment could not obtain it because osteopathic physicians are not permitted to enter. It was said that the matter would probably be taken up before the legislature. The action was, in part at least, the outgrowth of action by the superintendent of the Augusta State Hospital for the Insane last January in which he refused to admit a case on a certificate signed by osteopathic physicians. The attorney general and the directors of the Augusta State Hospital at that time ruled that the signatures of osteopathic physicians on the commitment papers of insane persons must be accepted equally with those of allopathic physicians. (FORUM OF OSTEOPATHY, June, 1932, p. 74).

CHIROPRACTIC FAILED IN MASSACHUSETTS

An initiative proposal to authorize the practice of chiropractic in Massachusetts was rejected at the November election by a vote of 602,520 to 350,994.

ON PSYCHOPATHIC HOSPITAL BOARD

R. N. Ashley, Wyandotte, Mich., was appointed a member of the board of trustees of the State Psychopathic Hospital of Michigan just before the retirement from office of Governor Brucker.

CORONER IN MICHIGAN

R. A. Northway, Mt. Pleasant, Mich., was elected coroner of Isabella County at the November election.

ADVISES CONSOLIDATION IN MISSOURI

On the eve of his retirement from office, Governor Caulfield recommended to the legislature of Missouri a program for efficiency and economy including the abolition of the state board of health to be replaced by one official, the state health commissioner, to be appointed by the governor and to have supervision of every state activity having to do with the public health and all phases of the healing art. This would abolish the food and drug department, the bureau of dairying and the examining boards in osteopathy, pharmacy, dentistry, optometry, nursing and other professions.

NEW YORK RENEWS FIGHT

Carl D. Clapp, Utica, N. Y., is again leading the legislative campaign of his state society.

EXPERT WITNESS IN RHODE ISLAND

Ralph A. Sweet, Providence, R. I., recently testified as an expert witness in an automobile accident case. The hospital record showed no evidence of fracture or dislocation, yet a severe headache persisted. Osteopathic examination showed an occipito-atlantal lesion, the correction of which relieved the headache. The doctor was asked to explain to the jury how an osteopathic lesion differed from a dislocation. He exhibited two vertebræ, showed their articular surfaces and explained the difference. The verdict was in favor of the doctor's patient.

NO LIQUOR PRESCRIPTIONS IN WASHINGTON

The office of the attorney general of the State of Washington on November 28, following "a somewhat hasty examination on the question" concluded "that osteopaths are not permitted under the Federal acts to prescribe intoxicating liquor." The Federal act provides: "No one shall be given a permit to prescribe liquor unless he is a physician *duly licensed to practice medicine* and actively engaged in the practice of such profession."

The attorney general continued: "An osteopath cannot be said to be a physician 'duly licensed to practice medicine.' Our Supreme Court so held in State v. Rust, 119 Wash. 480, in which was considered the right of an osteopath to be exempt from the provisions of the optometry act, which excepted, among others, 'any . . . . physician who is regularly licensed to practice medicine'."

He shows that the office held to the same effect in an opinion to the director of licenses on April 4, 1927 (Opinions Attorney General, 1927-28, p. 46.)

He says that the case of the State ex rel. Walker, v. Dean, 155 Wash. 383, does not hold to the contrary. "The court simply held that the word 'physician' is broad enough to include osteopathic physicians."

The writer of the opinion admits that he is not familiar with the Waldo case (JOUR. AM. OSTEO. ASSN., Feb., 1926, p. 466, July, 1926, p. 944), "in which it was apparently held that osteopathic surgeons may prescribe narcotics. It may be that the narcotics act is broader than the prohibition act and permits any physician to prescribe narcotics. If the Waldo case construes a statute similar to section 16, Title 27, U. S. C. A., and holds that an osteopath may prescribe narcotics thereunder, that case obviously is contrary to the Rust case and cannot be followed."

CORONER IN WEST VIRGINIA

George C. Eoff, Wellsburg, W. Va., was chosen coroner by the county court of Brooke County at the beginning of January.

State Boards

Illinois

Oliver C. Foreman, Chicago, reports that Illinois State Board will hold the 1933 examinations for license to practice osteopathy in Illinois on the following dates: January 17-19; April 11-13; June 27-29; and October 17-19. All examinations will be held in Chicago.

Ohio

The reciprocity requirement in Ohio as given in the Yearbook of the American Osteopathic Association was "with states having equal requirements." It is pointed out that Ohio really gives reciprocity with only nine states. On December 8, 1908, the osteopathic committee recommended to the medical board that five years practice be required of an applicant for reciprocity in addition to necessary preliminary and professional requirements. This recommendation was adopted and remained in force for a number of years. The requirement has now been reduced to two years practice.

Special Article

CONSTIPATION

ALVAN D. WAGNER, D.O.
Herkimer, N. Y.

As a reason for my picking this topic for discussion, I will say that an old doctor once told me that the longer I was in practice, the more I would realize that half of what people eat keeps them alive, while the other half keeps the doctors alive, and I feel that there is a great deal of truth in his statement.

Constipation is (1) a retention of feces in the alimentary canal; (2) retarded defecation; (3) an abnormal delay in the passage of the intestinal contents through a portion, or portions of the gastro-intestinal tract, resulting in either the absorption of toxins produced through the fermentation and putrefaction of the debris or pressure on the intestinal tissues causing symptoms simulating those of autointoxication.

Symptoms of habitual constipation are quite clearly defined and are hard to mistake. Some cases are on record of only one bowel movement in two days, once a week, once a month, etc., with only slight symptoms of fullness of the abdomen and vertigo. Such cases are on record but we are not concerned with these exceptions. The rule is that habitual constipation usually results in autointoxication of a mild degree, manifesting itself by a sense of fullness, lassitude, mental depression, or dull headache, some impairment of digestion, loss of appetite, heartburn, nausea, etc., with sometimes colicky pains and distention.

Most of these symptoms are relieved by a free movement of the bowels. In some cases a retention of four or five days will be followed by a spontaneous diarrhea for a single day with a subsequent constipation as before.

There is some question as to whether these symptoms of autointoxication are a result of the absorption of toxins, or whether the fact that they are so readily relieved as has just been indicated means that they are due chiefly to a nervous origin caused by a distended rectum, for packing the rectum with nontoxic substance, such as sterile cotton will result in symptoms simulating those of autointoxication.

In some cases, protracted constipation results in violent headaches, accompanied by vertigo, spots before the eyes, rapid and irregular pulse, extreme nausea and vomiting, and the usual trend of symptoms that are so common that to catalog them is tiring.

Occasionally we find a case of *fecal sapremia* in which the symptoms become so acute as to cause prostration, sharp abdominal pain, sustained high temperature, tachycardia, severe headache, a dry furred tongue, and an eruption. In these cases it may be necessary to resort to a Widal test to differentiate.

Large fecal masses may accumulate in the intestinal tract and cause colicky pains. This is *fecal colic,* and may be acute enough to cause fainting. In these cases there is usually distention of the abdomen by gas, and temporary relief may be obtained by the passage of flatus. Sometimes fecal colic precedes every daily evacuation. Some cases resist purgatives, causing the diagnosis of intestinal obstruction to be considered.

Fecal tumors may be found in almost any section of the bowel, but the more common locations are the cecum, sigmoid flexure and rectum, causing more or less dislocation of the intestinal segment in which they occur. This is especially true of the transverse colon. These tumors may attain considerable size and weight. Frequently there is a passageway through or around such a tumor by which a daily passage may be obtained. As a rule these tumors can be palpated as a doughy mass, slightly movable, though sometimes they may be hard and nodular.

DIFFERENTIAL DIAGNOSIS

Simple retention of the fecal contents of the intestines for longer than may be considered natural is usually suf-

ficient diagnostic evidence of constipation in an unqualified sense. But as undue retentions of feces are often caused by a variety of mechanical obstructions such as strictures, invaginations, concretions, morbid growths or tumors, and visceral displacements, it is often wise to find the reason for the retention.

Differential diagnosis involves first, proof of absence of mechanical obstruction; second, proof that the physiologic conditions concerned in natural evacuations are at fault in any given case.

Proper physical examination of the abdomen will usually reveal any tumor or morbid growth.

Stricture or invagination will present well marked pains and fullness at some one location, but with stricture especially, the past history of the patient will show it to have been a sequela of dysentery, typhoid or some other primary intestinal ulceration.

Visceral displacements (most commonly uterine displacements) or rectal concretions, are readily detected by direct examination through the vagina and rectum.

Chronic constipation from some other cause may sometimes cause uterine displacements. The lower third of the rectum may become pouched resulting in a varicosity of the vaginal and uterine veins, caused by a proctocele pressing the vagina forward. Efforts in defecation then cause intense pain, pressing the vagina and rectum downward to the pubis and perineum. Instead of relieving the patient the traction of the rectum on the vagina draws the uterus into retroversion, thus causing a mechanical obstruction. Correction of the retroversion will not alter the condition for the rectocele is the cause. The proper course is to cure the constipation when the retroversion will relieve itself.

Constipation not due to mechanical obstruction may be due to faulty action of the goblet cells of the intestinal glands, hence a decrease in the amount of lubrication to the fecal mass. This faulty action may be restricted to any section of the colon. If this is found in the ascending colon, pain is quite apt to appear in the right iliac region, and simulate the pains of appendicitis.

The constipation may be either spastic or atonic. In the spastic type the musculature of the intestinal tract is in a contracted state, and a bulky diet is contraindicated. In the atonic type the musculature is in a relaxed flabby state. A means of differentiating between these types is to have the patient flat on the back, raise either leg, and flex it on the abdomen, instructing the patient to relax. Normally there is no resistance, but in a spastic constipation, the abductors are contracted so the abduction is nearly impossible. In some instances the foot of the other leg, which is lying horizontally, turns inward at the same time. This sign points to extreme motor excitability, which also includes the intestines.

ETIOLOGY

Habitual constipation is more frequently found in adults than in children, due to better supervision of the latter, also more in females than in males.

Among the causes are: Sedentary indoor life, with deficient outdoor exercise; too tight clothing (men's belts); faulty diet (either too slight, too concentrated, too abundant and difficult to digest, not enough water, or too easily absorbed).

Mechanical obstructions: Stricture, hypertrophied sphincters, or levator ani muscles, polypus, tumors, prolapsed or retroverted uterus, enlarged prostate.

Defective peristaltic action: Habit of suppressing the desire to defecate continually causes ultimate decrease of natural stimulus. Irregular living and faulty diet are also apt to check peristalsis.

Deficient intestinal secretion: Diminished quantity of bile emptied into the intestines; also poor action of the goblet cells in their normal action to lubricate the intestinal tract.

Deficiency of liquid: Due to a dry diet, failure to drink water throughout the day, or due to profuse sweating.

Deficient nervous excitability: Organic disease of the brain or cord, neurasthenia, hysteria, old age, lack of exercise, or owing to a weakness of nerve impulses.

Muscular spasms in lower part of the rectum: This is usually due to a painful fissure of the anus and ulceration of the rectal mucous membrane, or painful hemorrhoids.

General disturbances: Lead poisoning, acute fevers, weakness of abdominal muscles.

Injuries: Causing the coccyx to be tipped forward resulting in an obstipation. (This is usually noticed by a flat or indented stool.)

PATHOLOGY

This has been fairly well covered under the heads of symptoms and etiology. However, I will say that constipation allowed to persist for several days will frequently irritate the intestinal mucosa sufficiently to cause diarrhea, but rarely is enough to cause perforation or peritonitis. A common sequela of constipation is mucous colitis.

PROGNOSIS

When the condition is caused by a mechanical obstruction, the prognosis rests entirely upon the removal of the obstruction, but when the cause lies in poor or loss of peristaltic action induced by erroneous habits of living, the prognosis is good, providing these habits are corrected permanently. Temporary relief can be obtained in almost all cases by the use of cathartics, but the normal bowel requires no medication.

TREATMENT

Active cathartics should be avoided as far as possible for they tend to produce an atonic paralysis of the intestinal musculature, thus creating a vicious cycle.

An enema of clear warm water (or saline) taken in the knee chest position, and holding that position for five minutes, then lying on the right side for twenty minutes is usually effective in cleaning out the entire colon. Such a great length of time is not always necessary. Enemas given every hour in acute cases will usually break up any fecal masses. Repeat if necessary.

When there is a mechanical obstruction, fissure, hemorrhoids, visceral displacements, etc., causing the constipation, surgical interference is indicated. If the coccyx is tipped forward, digital pressure will frequently replace it, but if this is of long standing it may be necessary to remove it.

After the acute condition is taken care of, the correction of the cause must be taken into consideration. The diet must be corrected or altered to meet the situation. I have found a great many people with a spastic condition forcing bulky foods, which in my mind is entirely wrong. In an atonic type the use of such bulky foods as bran, etc., is satisfactory.

A glass or two of cold water the first thing in the morning is often beneficial in stimulating peristalsis. The use of petrolatum in the common forms as petrolagar, agarol, mineral oil emulsions, is useful in lubricating the tract and softening the stool. One or two heaping tablespoonfuls of bran in a glass of cold water at night will usually incite a bowel movement the next morning. Agar-agar adds soft bulk to the diet.

A natural mild cathartic is made up of a quarter pound of figs, dates, prunes and raisins, ground fine and mixed with an ounce of senna leaves. This mixture can be cut into squares and dipped in sugar. These can be given to children under the disguise of candy.

A retained rectal injection of three or four ounces of olive oil at night will almost always bring results the next morning.

Many medicinal preparations have been advocated in the treatment of constipation, but at some time or other they have all failed. There is nothing yet produced that is a cure-all.

Osteopathy offers the greatest possibilities in the treatment of constipation. Correction of lesions in the lower splanchnic and the upper lumbar regions will stimulate the peristaltic action of the colon through the sympathetic nervous system. Concussion over the 11th dorsal, 1st and 3rd lumbar is said to have desired effects.

Abdominal massage is advocated and indicated when there is no inflammatory process present. With the patient lying on either side, and the legs partially flexed, massage over the colon on the dependent side in the direction of the normal flow of the colon (ascending or descending).

Osteopathic lesions elsewhere along the spine may have an indirect connection through the sympathic nervous system and thus influence constipation. Therefore all lesions found should be corrected.

316 Henry St.

Reasoning by analogy is always fallacious; and it seems especially futile to attempt to build up a physiological theory by such a process. The modifications which can be impressed on non-living objects give us no clue as to the nature of the modifications which are made in an animal through its own activity.—Knight Dunlap in "Habits."

FUNCTION DEPENDS UPON STRUCTURE

EDWARD S. MERRILL, D.O.
Los Angeles

In the Smithsonian Institute at Washington, D. C., is a flying machine which never actually flew. It was made years before the Wrights actually did fly, and while it never flew, it served as an inspiration and as a symbol of the fact that men could fly.

Each generation has had a man who was so advanced that his ideas were not utilized by his contemporaries. Avogadro, Mayer and Joule were men who formulated theories but waited years for their fruition.

In the sixties and seventies of the last century a man worked and theorized in the chemical field, but not until now has there come a recognition of the fact for which he toiled, and upon which the present-day explanations of the effects of anesthesia are based. Claude Bernard was the man who first said that cell colloids can be made to coagulate, that this coagulation produces the unconsciousness, and that the process can be reversed and the coagulation dispersed by the electrolytes of the normal cells.

Taking this as a postulate a research professor and an Ely Lilly Research worker at Cornell have attempted to prove that drugs aid in the normal reversibility of the coagulation of the colloids of the nervous system, and to apply these researches in the field of insanity.

I have a friend who says that a man never quarrels with his wife unless he has the stomachache, and I retaliate by stating that a man never has a stomachache unless he quarrels with his wife. This is mentioned merely to emphasize the chemical parallelism and the discussion therefrom, which has been going on with much heated argument between William A. White, head of the Government work at St. Elizabeth's Hospital in Washington, D. C., as the chief exponent of the psychological explanation of insanity, and Cotton of the State Hospital of Trenton, New Jersey, as the chief exponent of the physical side as a cause for insanity. Whites' point for the manic depressive psychosis illustrates that there is no physical sickness until after the emotional change has produced it, and Cotton points to general paralysis as an instance of the physical change as the cause of the mental disturbance.

This argument as to the effect of mind on body and body on mind has run from Bolton and Paton to Cannon and Kemp. In the practical West insanity was because of a demon, which had to be driven out of the patient; and in the mystical East insanity came as the result of a soul out of favor with the gods.

There has been a constant tendency to try to find a physical cause for the symptoms of insanity and much search has been made for the pathological evidences macroscopically and microscopically. Organic lesions, as they have been designated, are those which can be found and studied postmortem, and where this study could not be made, the disease has been called functional. It must be remembered that for postmortem study the tissue has to be "fixed" and the fixing means coagulating, and therefore the material which comes under the microscope is a cell in name only, so far as life functions are concerned. Ordinary microscopy is very limited in its capacity to discern life processes, because it does not show the colloidal variations, which are the essentials of life. Some insanities may be due to the variations in the coagulations of the colloid, and this cannot be seen. The semi-coagulations from drugs, suffocations, heat, cold, electricity and trauma cannot be seen, and yet we postulate that they exist, and that the repair from the coagulation is by the process of dispersion of the colloids.

Our ideas in regard to functional diseases are hazy, and cannot be demonstrated histologically. Functional diseases, therefore, *may* be the unusual dispersion or coagulation of the colloids. An argument for this idea is that coagulating agents, namely anesthetics and narcotics, may and do produce mental symptoms, and dispersing agents may and do produce mental sickness.

Because we are osteopathic and because we believe that "function depends upon structure," and because by aeration we know that we can tend to keep the colloids more nearly at their normal level, I believe that we can have even more enthusiasm for the effects of osteopathic treatment in the several kinds of insanity. All the drugs mentioned below are not curative but only palliative, and the real cure must come from the physiological process which upset the normal equilibrium of the colloids in the first place.

Therefore, let us postulate that a change in the structure of the colloid produces a change in the function, and that an increased coagulability is benefited by dispersing drugs, and that increased dispersion is benefited by coagulating drugs.

Dispersing drugs, when given to excess, can even cause catatonia and coagulating drugs can produce epilepsy. From a practical standpoint, then, in all forms of drug addiction, one should use a dispersing drug, of which the iodides, the bromides and the thiocyanates are most effective. Lead, arsenic and mercury poisoning should be treated by the disperser, potassium iodide.

Clinically, the catatonic form of dementia praecox was seen to clear in a number of cases in varying periods from two to twenty-five minutes by inspiration of carbon dioxide, and when the carbon dioxide was taken away the patients lapsed back into the original state. This result was probably obtained by relief from acidosis due to the increased aeration from use of carbon dioxide.

Lorenz of the University of Wisconsin reports marked clearing from the depressing effect of amytal by the use of carbon dioxide, and English[2] shows a similar effect after the poisoning by manganese chloride.

It is well known that cocaine, picrotoxin, and camphor disperse the colloids and produce convulsions. The good effect of the bromides in epilepsy is due to the dispersing effect of the bromides, which would indicate that epilepsy is an overcoagulation of the colloids. To a case of morphinism by mistake a very large dose of bromides was given and the patient not only recovered promptly from the morphinism, but his appetite was taken away. Similar results have been obtained in chronic alcoholism[3], [4].

The same explanation which covers the use of the anesthetics may also explain some of the simple forms of insanity. Certain drugs coagulate the colloids of the nerve cells and get their action by the lessening of the function of these cells. This list of drugs is made up of those which clinically put people to sleep, or produce convulsions, and includes all the direct anesthetics and the narcotics.

Indirect anesthesia operates by causing increased coagulation from the accumulated waste products, which produces an anoxemia. Such anesthetics are nitrous oxide, acetylene and hydrocyanic gas. The list of direct anesthetics and narcotics includes ether, chloroform and alcohol, morphine, cocaine, atropin, hyocine, coffee, tobacco, trauma and the "flying ceiling" of aviators, really an anoxemia.

The drugs of that group which is opposed to the coagulators, disperse the colloids, and include the bromides, iodides and thiocyanates, especially their alkaline salts. The bromides have for their effect upon the normal individual, difficulty of swallowing and speaking, marked exhaustion, slowing of the heart, confusion, slowing of the reflex irritability. The iodides slow all of the vegetative functions to death, if given in excess quantities. The thiocyanates produce abnormal sensory disturbances, intrapsychic phenomena, and motor paralysis (these results have been found in the treatment of hypertension). The bromides, iodides and thiocyanates all have irritating effects upon the stomach and skin, because these latter are both acid.

Because the anesthetics and narcotics produce both coagulation and mental disease, and because the bromides, iodides and thiocyanates produce dispersion in mental disease, the logical question arises, "Is mental disease a condition of overcoagulation or overdispersion of the colloids?" A series of experiments in which a coagulating drug was met by a dispersing drug proves conclusively that a "scrambled" brain can be "unscrambled," that the coagulation can be dispersed. Before giving these experiments, let me present some evidence to show which are the logical drugs used to disperse the colloids.

The sodium salt of hydrochloric, hydrobromic, hydriodic and thiocyanic acids, and ephedrine, were used in experiment. In the lyotropic series, sodium thiocyanate gives a figure of 0.0114, sodium iodide 1.15, sodium bromide 2.3, and sodium chloride 2.3. From these figures it is easy to see that the sodium thiocyanate is many times more effective as a disperser than the other drugs. (Let me state here that in place of the term sodium thiocyanate,

we will now use the term sodium rhodanate, for the cyanates and the cyanides carry popular prejudice and the German trade name of rhodanate not only eliminates the prejudice, but the possibility of any serious complications when compounding by reason of using wrong terms.)

A dog with exposed 4th ventricle was heated to the point of unconsciousness and arrest of respiration. The application of sodium chloride dispersed the colloid so that the dog immediately became active.

A dog of given weight was given a dose of mercuric chloride and died. Another dog with the same dose of mercuric chloride, but with sodium chloride added, lived. This same experiment with strychnine and sodium chloride was repeated, and the dog lived, showing that one substance can replace another. Sodium chloride protects rabbits sensitized with sheep serum from anaphylactic shock.

Bromides showed their greatest effect on afferent nerves, thereby cutting off peripheral stimulation, and are especially valuable in epilepsy, tetanus and strychnine poisoning. Schiff produced epilepsy in a dog by electric current and cleared up the attacks by the use of bromides. In nervousness and insomnia sodium bromide cuts down the afferent impulses in the cord and helps sleep. By the same process bromides are valuable in ordinary anesthesia. After a sodium bromide narcosis, the glycogen in the brain was normal, whereas after ether it was only 53%, after chloroform 43% and morphine 38%. (Just in passing this raises the interesting question as to whether the glycogen maintains a normal dispersion in the colloids.) Sodium bromide has a clinical use in those diseases in which there is an unusual coagulation of the colloids, namely delirium tremens, tetanus, strychnine, morphine and cocaine poisoning, as well as in hyperpiesia, nervous eczema and dyspnea, and sunstroke.

The iodide salts with the preference given to soda are useful in asthma (when there is a protein disturbance) arteriosclerosis, lead poisoning, neuralgias, the meningitides with delusion and stupor. Sodium iodide has a special affinity for necrotic tissue and for luetic nervous tissue, as well as metastatic carcinoma. Because the iodides are specific for thyrotoxicosis it cannot be used in long time cases to best advantage.

Since rhodanate stands highest in the lyotropic series, it has a greater effect than these other drugs in the neuroses, arteriosclerosis, lues, metal poisoning, nephrolithiasis, tabes, migraine, sympatheticotonia, hypertension from nephritis, catarrh, dyspnea, mania and alcoholism.

Ephedrine disperses protein colloids 4 times as rapidly as rhodanates, and therefore is especially valuable in sodium amytal anesthesia, peptone poisoning, bronchial asthma and narcolepsy.

The sodium rhodanate is nontoxic, raises the respiratory rate, is not irritative in the kidney, is in direct antagonism to the coagulation of alcoholism, and protects against anaphylactic shock. Therefore in the experiments to follow, sodium rhodanate will be largely used, in combating the effects of the anesthetic and narcotic groups.

1. Ether anesthesia shows that a rabbit treated with sodium rhodanate recovers the wink reflex 540% faster than the test animal.

2. In amytal narcosis the control animal regained the wink reflex in 2 hours and 20 minutes and his stance in 4½ hours, whereas with the addition of sodium rhodanate the wink reflex recovered in 19 minutes and the stance in 2 hours. Four injections of 10% sodium rhodanate each half hour were given. The respiration of the test animal was twice that of the control animal.

3. In an animal under morphine hydrochloride the test animal winked in one-half the time and stood in one-half the time and had a respiration twice as rapid, as the control animal. In morphine addiction sodium rhodanate by vein (.08 grams per kilogram of body weight), followed by small doses by mouth, increasing up to the state of hallucination and mania clinically clears the patient entirely.

4. An animal poisoned by strychnine died in 8 minutes. but in the test animal with the same dose of strychnine, after a dose of sodium rhodanate which caused convulsions, normal condition was apparently recovered again in 24 minutes.

5. Alcohol 95% diluted 3 times, 14 c.c. was given to an 8 kilogram female dog and in 9 minutes she was unconscious. One minute later 15 c.c. of a 10% solution of sodium rhodanate injected 1 c.c. per minute produced a well dog in 45 minutes.

6. Alcohol 275 c.c. was given to a man, who in the next 45 minutes took 4 grams of sodium rhodanate, which decreased the size of the pupils, dropped his apathy and slowed his pulse from 92 to 72.

7. Anaphylactic shock involves the sympathetic instead of the cerebrospinal nerves. All anaphylactic agents produce a coagulation of the colloids. All of a series of sensitized rabbits were saved by sodium rhodanates. This is interesting because in anaphylactic shock ordinarily blood pressure-raising drugs, namely, atropin, adrenalin, chloral hydrates, ether, alcohol and atoxyl are used, and all of these are diametrically opposed to sodium rhodanate, which disperses the colloids and brings the animal back to normal functioning.

8. Histamine poisoning is like anaphylactic reaction except that there is no decrease in the coagulability of the blood. Control animal with histamine was dead in 4 minutes. The test animal with sodium rhodanate followed by histamine had no bad effects.

All the above experiments show the truth of the theory of dispersing the coagulation which results from anesthesia and narcosis.

At the Willard State Hospital in Minnesota, Lang and Patterson[5] demonstrated that the functional psychoses show a relationship between the symptoms and the colloid condition.

1. The cycloid cases responded to sodium amytal easier than normals or the schizoids.

2. About 80% of the schizoids (dementia praecox) catatonics and involutional psychoses were soothed by amytal and made worse by sodium rhodanate.

3. The cycloid group (manic depressive) were helped by sodium rhodanate and made worse by amytal.

4. The epileptics responded well to sodium rhodanate and were made worse by sodium amytal.

5. Chronic alcoholic psychoses, uncomplicated by affective disturbance, responded well to sodium rhodanate.

6. The paretics, which were treated, were under tryparsamide and did not respond as well as had been expected.

From this theory by Lang it is indicated that in addition to therapeutic value, the use of coagulating and dispersing agents, such as amytal and sodium rhodanate help to *classify all mental diseases into the coagulative group, which is cycloid, and the dispersed group, which is schizoid.*

SUMMARY

1. The conclusion as a result of these studies indicates that the Claude Bernard theory of coagulation and dispersion of the colloids has its effect upon thinking.

2. The experiments on animals and on humans indicate that the schizoids are in the dispersion side and the cycloids in the coagulation side, that the schizoids respond well to amytal and poorly to sodium rhodanate and that the cycloids react well to rhodanate and poorly to amytal.

3. It is possible by testing a patient with rhodanate and amytal to determine the question of the amount of dispersibility.

4. Since the manic depressives and epileptics and general paretics are in the coagulation side, they can be helped by sodium rhodanate.

5. Lang's experiments show that there are two kinds of stupor, one which responds to sodium amytal and therefore is on the dispersion side, and one which responds to sodium rhodanate, and therefore is on the coagulation side.

6. The insanities associated with hyperthyroidism become cycloid in type and are coagulated, whereas the insanities associated with hypothyroidism become schizoid and are of the disperse type.

Merrill Osteopathic Sanitarium.

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Athletics Section

THE HEART IN ATHLETICS

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The following extract from a recent report of the Recreation Division of the South Park Commissioners, Chicago, may be of interest to those who have observed the sweeping tendency on the part of the American people toward active participation in the various strenuous sports.

Besides the several large park areas, the South Parks include eighteen smaller units. In each of these, there are from 400 to 1,000 registered athletes, of both sexes, ranging in age from ten to thirty years. The park program includes inter-park competitive tournaments in a wide variety of sports. The large number of athletes, the diversity of activity, and the extremes of emotional and physical stress, present an unusual opportunity for critical observation of the effects of athletic competition on the cardiovascular system. Several studies have been made in the attempt to keep the program within physiological range.

The report of one such study of heart rate follows:

"We have made a study of heart rate in connection with some of our sports. We thought if we could measure the interval before the individual player's heart returns to its normal rhythm, after a contest, we would have a rough index, at least, to the comparative violence of exertion by this 'picture' of the compensation period. This period of compensation outran the time during which we were able to hold the boys for observation after a game ended. We were never able to complete our study into that phase of the subject.

"We did, however, compile records for all athletes entering into 225 individual games of basketball in our several tournaments during the year. We found wide variation in heart rate among athletes seemingly in good physical condition. Some heart rates were so abnormal that we took them to heart specialists to see whether serious cardiac ailments were present. It appeared that wide fluctuation in normal heart rates exist among boys. Eventually, however, after readings of individual athletes in repose, we were able to secure some sort of average for each boy.

"Just before the team stepped onto the floor for the tournament games, we took another reading of each individual, and we were greatly impressed by the acceleration of heart rate brought on by anticipation of a game. The machinery was invariably speeded up in expectation of the impending contest, to a greater or less extent, and in general, the extent of speed-up was astonishing. At the end of the game the teams came off the floor with a heightened pulse rate, of course, and readings at 15 minute intervals subsequent to leaving the floor showed a curve of subsidence of heart action which indicated, apparently, that the violence of their exertion was compensated for over a rather long period of time. At the end of 45 minutes most of the teams were eager to be on their way, and it was impossible to extend the observation time.

"Two things came out of this study. In over 95 per cent of the cases, the team that lost the contest showed the greater average acceleration over its previously established norm of heart rate. Superior teams, rated as certain winners in advance, but which had reversals of form and lost to inferior opponents, telegraphed the news in advance by undue heart acceleration. We believe this furnishes food for thought, and an incentive for further investigation of coaching methods which use intense stimulation of athletes before entering contests. Several football coaches with whom we have talked on this subject agree that such exhortation of athletes is bad practice, but doubtless there are many coaches, particularly among those less experienced, who still resort to that method. The evidence seems to point to a conclusion that stimulating exhortation to athletes is harmful.

"Another important observation in connection with this study was the apparent accumulation of strain in a type of tournament which necessitates games closely following one another. In our wrestling tournament it was found necessary to put some of the wrestlers into as many as three bouts in a single evening. We had one athlete of splendid physique and national reputation in his weight class, whom we had examined and pronounced perfect in heart action and mechanism. He came off the mat at the end of his third bout with a heart rate of 225 per minute. Here again, before the first bout, the heart rate showed an anticipatory stimulation. Following the first bout, the heart rate slowly declined from a considerably heightened level, struck a slowly sinking plateau, entered the second bout accelerated above this plateau, came off the mat at the end of the second bout at a further higher accelerated rate, and slowly dropped again; jumped up in anticipation of the third bout as the time neared to enter it, and came off the mat at a still further accelerated level at the end of the third bout. As compared to such a successive series of contests, we found nothing in the game of basketball at all comparable, although basketball is considered by most authorities to be a highly strenuous game, and is played by our boys in a highly developed workman-like form.

"We expect to go further with this heart study, using recording apparatus. But the electrocardiograph is not adapted to recording heart rates under stress, and we are looking into mechanisms which will afford graphic and indisputable records as a means of carrying out a more complete research effects of athletic competition on the cardiovascular system."

American Osteopathic Society of Proctology

THE PSYCHOLOGY OF A RECTAL EXAMINATION*

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It has not been in my mind to create a scientific article, but rather to give a few practical hints that may help toward a pleasant and profitable contact. This paper is not intended to cover the subject, "How to Make a Rectal Examination," though it, of necessity, touches the subject.

I have had prospective patients say, "Now I want you to be honest with me. I've been told by Mrs. Blank that the whole thing from the examination to the last treatment is extremely painful."

It is to help you to eradicate this picture from your patients' minds, to convince the public that a rectal examination need not be painful—that I have written this paper.

The gastro-intestinal canal has two ends. The upper end is considered one of the most respectable and even noble parts of the body. Its contours and coloring are considered beautiful and have been celebrated in song and story. More physicians have devoted their lives to its study than have engaged in the practice of any other medical specialty.

On the other hand, the exit of this same tube has long been considered disgusting, by all civilized peoples. Even worldly men of experience show a diffidence which is hard to believe in talking about their rectal symptoms even in the privacy of the consultation room.

By far the large majority of rectal patients do not come unless there are one or more symptoms that are compelling in their demand for attention, of which pain and bleeding are the two most common.

What is your patient's state of mind when he gets on your table? Have you ever personally been in his shoes? Take the time to place yourself in some unknown proctologist's office (forgetting, of course, that you are a physician) knowing how painful your rectum is—having heard from various sources how severe the treatments are. Perhaps you have been told that this doctor is a quack, and that if you place yourself in his hands he will use pure carbolic acid to treat you.

Yet your reason and will power have got you into the doctor's treatment room and in the process of forcing yourself onto his table. Your heart is beating like a trip hammer. You wish you hadn't come. Maybe you have

*Read before the Proctology Section, A.O.A. Convention, Detroit, 1932.

put this off longer than you should have done and a cancer has developed and now nothing can be done for it anyhow. If the doctor would not think you were a coward, you would back out of it somehow.

Yes, you know the doctor told you to lie on your left side, but how could you be expected to know which was your left side—in all these circumstances. Oh, yes, that left arm behind you. What an awkward position—all on a strain—and the doctor asking you to relax too! At this stage, the doctor places his hands, one on your right shoulder and one on your right hip and rolls you forward just a little but how much more comfortable you are now. Maybe the doctor knows his business after all; perhaps he is not a quack. Still, he hasn't examined you. You are going to watch him pretty closely and if he hurts you, you are not coming back to him. The last doctor you went to nearly killed you.

Now, how are you going to overcome this attitude and win your patient to a complete, relaxing confidence, and a desire to cooperate fully?

Your examination should be painless and free from embarrassment to the patient. If you register or show embarrassment, your patient, especially if a woman, will also be embarrassed. But if you are genuinely not embarrassed she will immediately get this truth and any hesitancy which she might have felt will disappear. If rectal work is disgusting or in any way distasteful, you will do well to enter more congenial fields.

Dr. Blanchard, in "An Epitome of Ambulant Proctology" says, "Cultivate not only the understanding touch, but that sort of 'laying on of hands' that soothes your patient and enhances his confidence. Have you a favorite barber whose touch is worth money?"

I recall a patient, a brain-worker, keen-minded and sensitive, who was under my treatment for hemorrhoids. A student assistant went out of the room while my patient was preparing to go. "That doctor will never make a rectal man," he said. "Why?" I asked. "He hasn't got the right touch," was his thought-suggesting reply.

I think Dr. Blanchard used to have a card printed on which was the following: "If you have that confidence and faith that is needed to carry you through for the time and number of treatments needed, you will be happy later that you did persist and keep the faith." These cards he used to hand to his patients. I think that is a very necessary idea for you to give to your patients. Your method and sympathetic carefulness while making the examination will go a long way toward establishing that "confidence and faith."

There lies your patient, fearful and apprehensive. If your bearing, actions, voice and touch reassure, confirm trust and confidence, soothe these natural fears, particularly awakened because you are working behind his back, then you may proceed with your examination with confidence.

Here I want to say a word about the technic of the examination. The first thing I do is to place my left hand upon the patient's right hip or buttocks (preferably upon the bare skin) and tell the patient that he has heard that there are tricks in all trades. In this work, too, there are tricks, and one of the best of these is for him to breathe through his mouth while I am either entering or taking my finger or instrument out of the rectum. I tell him that he may not know it but the rectal muscles are very closely associated with the breathing; in fact the character of the breathing is largely determined by the condition of the last inch or inch and a half of the rectum. Breathing through the mouth will relax the sphincter muscles and will make the examination much easier. In fact, if he will cooperate fully with me the examination will not really hurt him. Then I take hold in a firm yet gentle manner of the left buttock and spread the cheeks and observe the outside appearance and condition of the anus, also the margin. Then I put a finger cot on my right forefinger, lubricate my smallest Brinkerhoff speculum, place the speculum where I can reach it readily, put plenty of grease (I use Crisco with soft antiseptic soap) on my finger cot and also plenty of grease about the anus. Then placing my finger first at right angles with the axis of the rectum, I exert firm steady pressure, mostly on the tissues just back of the anus, with the point of my finger just over the orifice—as I feel the muscles relax, the point of my finger just sort of falls into the rectum; then I hook it in and around and back. Just here let me say that the direction of the axis of the first inch of the rectum is parallel with a line drawn from the anus to the umbilicus, and after you are into the internal sphincter the line of direction dips back to practically a right angle to the first line. This will suggest the easy way to insert your finger and especially your Brinkerhoff. After my finger is in as far as it will go, I feel for anything I can find; hard tissues of any kind, including tight sphincters, cancer, hypertrophied crypts, neoplasms, and so forth, being sure to see to it that the patient's sphincters are relaxed by the process of breathing through his mouth. I keep telling my nervous patient to breathe through his mouth.

Now, the patient's rectum is thoroughly lubricated and I haven't hurt him so far, therefore I am ready to use my smallest Brinkerhoff speculum and make further examination. When inserting the speculum, use the care that you would if you were examining the eye—*be careful, do not hurt your patient.*

In summing up I think I cannot do better than quote from Dr. Blanchard's textbook, "I must not neglect to stress the importance of making the best possible impression during the preliminary examination. This proper handling of the patient should not be neglected at any time, but it is of prime importance to make a confidence-inspiring impression during the first examination." I have often urged my students to cultivate the art of using the right touch.

If your movements are uncertain, if you fuddle about, if you hesitate, if you begin this and that and seem to forget what you started to do, if you make many lost and useless motions, if your hands tremble and shake, if you grunt and puff, if you grumble about the light or anything else, if you swear at the nurse or your assistant (under your breath), that is enough to insure your failure with almost any patient. Long before many of these things are in evidence your patient will be looking at you over his right shoulder and about ready to jump off the table.

It is well to remember that your approach is from the back, and that we are all apprehensive of dangers behind our backs. Behind us are many centuries of race history that have bred into our subconsciousness this fear of the enemy in the rear. We face dangers readily and we fight those before us. We put our backs to the wall of rock and fight our enemies in front. Man has never been a fleeing animal. Do not forget, then, that you are on the patient's "fear side".

I always do my questioning standing at the patient's face. I there feel of the pulse and do other little perfunctory things interspersed with a few smiles. I try to keep my hands smooth and soft, and the finger-nails in the best possible trim. I have washed and dried my hands very carefully in the patient's presence. If I can succeed, as I fancy I do often, in putting my hands on the bare skin of the patient in such a way that it is *reassuring and confidence-inspiring,* I have half or more than half won my battle. Opportunity to make this impression comes when the nates are taken in the hands and spread apart for the inspection of the anus and anal region.

Let us seek that very wonderful touch that tells the patient at once that we understand our work. What it is or how the art is learned I cannot say. It cannot be taught as I might teach you the mechanics of our art. It is a subtle something that belongs to the psychic side of our being. By the term psychic I do not mean anything spiritual or mystic, but rather the mental or intellectual reactions from external stimuli.

If every item of the stage-setting—and by that I mean the office, the instrument tables, the examining tables, the nurse and you yourself—if all these have the right appearance and arrangement; if your manner and personality are attractive; if you make every move count for some good purpose; if there is nothing that shocks or hurts or frightens (a cold speculum has cost many a doctor his good start); if your hands are warm and your movements positive and gentle; and above all, if you remember when inserting the speculum, to go *slowly* and that the prostate in the male, and the cervix in the female, lie anteriorly, and don't try to push the point of the speculum through them; if you do what you set out to do with ease and dispatch; if you seem to know what you want and to get it without delay, haste or confusion; if—well, this will be enough to make your success quite certain.

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American Osteopathic Society of Opthalmology and Otolaryngology

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THE COMMON COLD*

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It is important that we understand the basis of our discussion on this very important subject. The word "common" means something that is of frequent occurrence or that is widespread. It also means that it is uncomplicated. The moment it becomes complicated it is mixed with something else and begins to be diversified into a variety of different conditions and is no longer common.

As ordinarily conceived, the location of the cold has something to do with its being called a common cold. It is conceived as located in the nose and throat, one or both. If the cold should settle in the back, or legs, or any other part of the body, it is not thought of as a common cold.

A short definition, then, of the common cold would be as follows: A congestion or inflammation of the mucous membrane of the nose and throat from certain definite causes.

DIAGNOSIS

The common cold should be differentiated from coryza, catarrh, acute rhinitis and complications. *Coryza* is from the Greek and means "a running at the nose"; *catarrh* is from the Greek and means "to flow down"; *rhinitis* is from the Greek and means "an inflammation of the nose".

In the common cold we may or may not have a running at the nose. It varies at different stages. Coryza, then, may be merely one of the symptoms in a common cold. Catarrh is either acute or chronic. In the common cold there may be a discharge somewhat as in catarrah. The catarrh may exist, however, without regard to a cold. In other words, catarrh may be caused by other things than the common cold. The same things that cause the common cold may cause the flow down of catarrh. For example, there may be a catarrh from errors in diet, from certain chemicals, from eyestrain, allergic reactions, odors, smoke, dust and infections.

Rhinitis, or an inflammation of the nose, is present in the common cold but rhinitis may be produced from the various things that have been mentioned as causing an acute catarrh. Coryza may be present in any of these conditions as a symptom.

In diagnosing the common cold, then, we must consider the history as to the cause of the trouble and its location which will help us to differentiate from these other conditions.

ETIOLOGY

The etiology of the common cold may be divided into *predisposing* and *exciting* causes.

I. *Predisposing Causes:*

The most common of the predisposing causes may be mentioned as follows:

a. *In the Nose—*

(1) Here we may have *deformities* such as deflected septum, displaced turbinated bodies, hypertrophy and tumors.

(2) *Infections.* These are quite common in the nose. There may be a catarrh present from the infection, and predisposing to a cold. There may be infection of the sinuses and of the cryptic spaces of the nose.

(3) *Catarrh.* There may be a chronic or acute catarrh that lays the foundation for the recurrence of the common cold.

b. *In the Throat—*

(1) Diseased tonsils and adenoids are frequently predisposing causes to repeated colds.

(2) There may be catarrh of the throat with a chronic pharyngitis.

c. *Systemic—*

(1) *Muscular tensions* and *bony lesions* from injuries, blows, falls, etc., interfere with the circulation of the fluids and forces, which lowers the resistance of the body to exposure, predisposing to colds.

(2) *Environment,* which includes dissipation, overwork, too close confinement and lack of sunshine. All tend to break down the resistance.

(3) *Eating.* Many persons overeat, eat irregularly and saturate their systems with toxins.

(4) *Constipation.* One who has chronic constipation develops naturally autointoxication. All these break the systemic resistance and tend to predispose to the common cold.

II. *Exciting Causes:*

a. *Exposure—*

This is probably the most common cause of the common cold. The body is an adaptive mechanism. It can stand a great deal if the changes are brought about gradually. Persons may learn to live in the polar regions or at the equator, but if they were suddenly transported in either direction, from one extreme to another, the change would mean great suffering or death. Even a slight change, suddenly brought about, will upset the balance of the circulation in different parts of the body. The nose and throat seem to be especially prone to exhibit an imbalance of the circulation. Going out of a warm office in cold weather without putting on extra wraps, even for a few minutes, is sufficient to bring on a cold. The change is too sudden. Many persons are in the habit of getting up at night to attend to some duty, especially where there is a baby in the family. They walk around on the cold floor with bare feet. It does not take much of this to break down resistance. Sometimes this is marked by aching muscles, if not congestion in the head. A few seconds of time to put on the bathrobe and slippers are not wasted.

b. *Germs—*

We all live where there is more or less dust. The dust may be germ laden. Massive doses of germ life will often bring on an acute inflammation of the nose and throat. There may be no complications and it may pass off without anything more manifested than the common cold.

c. *Drafts—*

This cause is one form of exposure. People stay in offices or homes and let them get stuffy, then raise the windows. In letting the room cool off, often there will be a draft of cold air on the back of the neck or some one part of the body. This produces an imbalance of the circulation and is often an exciting cause of the common cold.

d. *Dust—*

Persons who work in the dust or are exposed to massive doses suddenly, often develop all the symptoms of a common cold from this cause. This might be called a rhinitis with a coryza but it manifests all the symptoms of the common cold.

SYMPTOMS

The symptoms of the common cold are largely those of the perversion of the functions of the fifth cranial nerve. The functions of the fifth cranial nerve are those of motion, sensation, secretion, vasomotion and trophism. Perversion of these different functions would be erection of the turbinate bodies, turgesence, increased secretion, thickening of the tissues and discomfort from the pressure with more or less headache and depression. There may be an increase in temperature, rapid pulse, cough, a toxic condition of the system and tension of the muscles, especially about the neck.

PATHOLOGY

The pathology is the breaking down of the vasomotor functions of the fifth cranial nerve, which results in engorgement and thickening of the tissues. There is a banking up of the lymph and blood in the rhinal region with turgesence and hypertrophy. With a repeated common cold there may develop polyps and thickening of the glands.

COMPLICATIONS

Complications are manifested in various parts of the body.

(1) *Eye—*

There may be a conjunctivitis and blepharitis with increased lacrimation. Where germ life is active there may be an iritis or an iridocyclitis as a complication.

*Read before the Eye, Ear, Nose and Throat Section, A.O.A. Convention, Detroit, 1932.

(2) *Ear*—
Eustachian salpingitis and otitis media are very common complications of a cold. Frequently the middle ear becomes invaded with germ life and we have an earache and often a suppurating ear.

(3) *Nose*—
The turbinate bodies may become hypertrophied. The sinuses are frequently congested and often invaded with germ life, causing suppuration. Polypoid inflammatory growths and thickening are common complications.

(4) *Throat*—
Enlargement of the tonsils and of the adenoids frequently come as complications of repeated colds. Hoarseness may develop with chronic catarrh of the throat.

(5) *Larynx*—
Inflammation of the larynx, including the vocal cords, is a common complication.

(6) *Lungs*—
Bronchitis and even pneumonia may come as a complication to the common cold.

(7) *Neck*—
A "crick" in the neck with stiffening and soreness of the muscles, enlarged cervical glands and inflammation of the muscles may result.

(8) *System*—
Toxemia, impaired resistance, depression and innervation may result as systemic trouble. Lesions of the spine and ribs from tension of the muscles are frequently found complicated with a common cold.

PROGNOSIS

The prognosis of the common cold varies. Under proper care and treatment it is favorable in 24 to 48 hours, in mild, uncomplicated cases. Where there is slight general reaction, with more or less systemic manifestations but yet no increase in temperature and pulse, the prognosis is favorable for two to four days. In the more severe cases, where the temperature and pulse show systemic involvement, varying from a mild reaction to excessive reaction, the prognosis is favorable from 4 to 8 days under proper care and treatment.

One with brisk fever early may have more prompt response than one who has a subnormal temperature, as the body forces are acting against the disease more readily. The prognosis is not so favorable on delayed treatment or neglect of the trouble in the hope that it will clear up of its own accord. The average case of cold that is taken care of promptly is from one to three days.

Everyone who gets a common cold should regard it as serious, because it so often results in serious consequences from some of the complications. It should be broken up as soon as possible. If it is neglected, or the wrong methods used, it may hang on for weeks.

THERAPY

a. *Osteopathy*—
Manipulative osteopathy promptly and rightly applied is perhaps the most effective of any one thing in dissipating the common cold.

(1) Treatment should be applied to the soft tissues thoroughly about the neck and upper thoracic region.

(2) Adjustments should be made, perhaps not the first day but soon after the congestion is relieved by soft tissue treatment.

(3) The lymphatic pump is of great importance. It should be applied thoroughly and effectively in order to help establish the balanced circulation.

(4) The liver should be treated carefully and also the spleen. This is helpful not only in adjusting the circulation but also all the body reactions.

(5) The ribs should be raised and the chest expanded while the patient practices deep breathing.

b. *Adjunctive Treatment*—
By this is meant different methods used to supplement manipulative treatment.

(1) *Heat* and *cold* may be used to advantage.

(2) *Diet.* No diet for 24 hours and then a very abstemious diet for another 24 hours may aid effectively in restoring circulatory balance.

(3) The *bowels* should be kept free. An enema or even cathartics may be resorted to with advantage.

(4) *Sprays* of some of the styptics and antiseptics or gargles and swabs in the nose and throat may help some. Nasal ointments for lubrications are of some advantage.

(5) *Baths* and *sweating.* Electric light cabinet baths or the hot tub bath with sweating of the patient and putting him to bed where he may sleep warm all night helps to break up the cold.

(6) *Physiotherapy,* such as some of the lights and diathermy may work to advantage.

(7) The *cough* may become annoying, and it may be of advantage to give the patient something to take home with him to use to control the cough. The sedatives are quite effective, such as sedormid, sodium amytal, cheracol with codeine. This will save the patient's nerve force and help him to rest at night should cough become disturbing.

(8) *Vaccine Therapy.* Much has been said in regard to the effectiveness of vaccines in the prevention and care of the common cold. From a recent number of the *Jour. Am. Med. Assn.,* under the head *"Vaccine in Prevention of Common Cold"* we quote: "The statistical results of an experiment performed by Brown on the value of vaccine in the prevention of the common cold show little, if any, improvement as regards common colds in the experimental group as a whole compared with the control group. Individuals in the experimental group appear to have received some benefit. This is in accordance with the observations that the group as a whole was not completely desensitized to the particular antigens used. Better results may be possible with an increased dosage of the vaccine or by employing with each individual the particular antigens to which he may be shown sensitive."

It has been found by some who have tried the experiment in the use of autogenous vaccine in the common cold that considerable benefits have resulted.

PROPHYLAXIS

If people in general would take precautions of certain kinds they would largely prevent the common cold.

(1) Avoid the various conditions which we have mentioned under etiology, just as far as possible.

(2) Observe the hygienic measures, such as having a sufficient amount of sleep, being in the sunshine or, where this is impossible, having applications of the ultra-violet light, which makes up to some extent for the absence of sunshine. Plenty of fresh air and good food, taken under right conditions. Exercise. The daily dozen is not sufficient. One should take more than colisthenics. Go to the gymnasium, play golf or take long walks. Keep the bowels free. Do not allow secretions to accumulate in the nose and throat. Avoid exposure, overeating, coddling, wet feet, drafts, etc. Keep the body clean by proper bathing.

Current Osteopathic Literature

Abstracted by Edward S. Gardiner, D.O.

THE COLLEGE JOURNAL, KANSAS CITY, MO.
17:1-32 (Jan.) 1933

*Gonorrheal Vulvovaginitis in Children. A. A. Kaiser.—p. 2.
*Goiter. G. J. Conley.—p. 4.
Roentgen Pelvimetry. C. A. Tedrick.—p. 10.
Arthritis Successfully Treated by Thermogenic Method. W. J. Deason, Wichita, Kan.—p. 12.
Abortions and Their Care. Margaret Jones.—p. 19.
Dermatology. Tinea Unguium, Tinea Tonsurans, and Tinea Sycosis. Annie G. Hedges.—p. 21.
Angina Pectoris. E. I. Schindler.—p. 22.

Vulvovaginitis.—Kaiser stresses the value of the following procedures in treating gonorrheal vulvovaginitis in children: (1) Physical rest in bed; (2) local cleanliness; (3) elevation of head of bed; (4) water freely; (5) bland soft diet; (6) osteopathic manipulative treatment. A few drugs in weak solution are recommended, such as silver nitrate, 1:1000; mercurochrome, 15% to 20%; metaphen; al-

bargin, 1/10% to 5%. During the acute stage, the labia should be separated with a small pledget of cotton and the external parts irrigated with a mild antiseptic such as boric acid. Care should be taken to prevent the spread of the infection higher.

Goiter.—Conley quotes Crile and other authorities on goiter to show that in toxic hyperplastic goiter there is a lesion of cervical sympathetics from which the thyroid receives its entire nerve supply. From this he thinks that it is "logical to expect that the external stimulus that is whipping the thyroid to extreme activity originates in many instances in some bony lesion at or near the origin of the nerve supply to the thyroid." These lesions may be found in the upper cervical vertebræ, the clavicles, upper dorsal vertebræ and ribs. The correction of lesions in these regions is the first fundamental requirement of treatment. The administration of thyroxin or Lugol's solution may alleviate the disturbance for a time. If the correction of the lesions does not bring about an involution of the hyperplastic tissue, then surgical intervention becomes necessary. To guard against a recurrence of the thyrotoxic state, the bony lesions should be corrected before surgery is performed. The thyroid should not be directly manipulated as it only tends to force more of its secretion into the circulation. Rigid dietary regime, rest in bed, freedom from company, worry, and financial troubles are ideal conditions to which many patients cannot yield.

Some errors were made in the abstract of Dr. Mabel Andersen's excellent article in the December *College Journal*. The abstract appeared in the January JOURNAL. It is herewith reprinted with the corrections.

Rectal Examination.—Reflexes arising from rectal pathology may be the cause of headaches, backaches, epigastric pain, sciatica, pain simulating chronic appendicitis, etc., according to Andersen. A routine examination of the rectum would eliminate a large number of incorrect diagnoses, she says, and it was Osler who stated that "no man can be trusted to make a diagnosis who cannot interpret a rectal palpation." Physicians often are guilty of prescribing suppositories and ointments before making a careful rectal examination. *Subjectively*, the patient's history is not a good guide, "however, pain and bleeding are the two symptoms that will be most likely to cause the patient to seek advice . . . Pain is a cardinal symptom when the lesion is within the first one to one and a half inches from the verge (the anal canal —that portion below the pectinate line)." The *objective* findings are by far the most important. No special preparation such as cathartics and enemas should be used. The external and surrounding tissues may show evidence of external thrombotic hemorrhoids, abscesses, etc., and these should be taken care of before further examination is made. In *palpation* a rubber cot or glove with plenty of lubrication is necessary. It may reveal hypertrophied papillæ, polyps, fibrous or thrombotic internal hemorrhoids, fistulous tracts, lesions of the coccyx, growths, etc. In the female the position of the uterus should be determined and in the male, the condition of the prostate. The *instrumental* examination should come next. Andersen recommends the Brinkerhoff speculum. "Lesions of the crypts of Morgagni, infected crypts, torn crypts, beginning sinuses are more often overlooked than any other rectal lesions because of their location. They are found at the pectinate line, open inward and upward, and it is impossible to see into these crypts. Diagnosis must be made by examining each crypt with a probe bent at one end like a shepherd's crook." She concludes with a plea for routine rectal examinations, saying that in epigastric disturbances, headaches, bladder irritations, coccygeal and sacro-iliac lesions that fail to respond to treatment, the cause of the disturbance may be in the rectal area. Reflexes from the rectal area are definite and constant.

THE JOURNAL OF OSTEOPATHY, KIRKSVILLE, MO.

40: 1-52 (Jan.) 1933

The Cost of Osteopathic Education. H. G. Swanson, Kirksville.—p. 7.
A Visit to Wichita. G. M. Laughlin, Kirksville.—p. 9.
The Philosophy of Osteopathy. C. P. McConnell, Chicago.—p. 10.
*Rectal Examinations. R. H. Van Wyngarden, Mexico, Mo.
Osteopathy and Dentistry. E. E. Walcher, D.D.S., Kirksville,—p. 18.
The Opportunity in Osteopathic Medicine. E. A. Ward, Saginaw, Mich.—p. 19.
*The Law in Its Relation to the Physician. C. E. Abegglen, Walla Walla, Wash.—p. 21.
Consultation. H. W. Gamble, Missouri Valley, Ia.—p. 26.

Rectal Examination.—Wyngarden says that there is no part of the body to which the general practitioner pays less attention than he does to the rectum. Every physician, whether practicing proctology or not, should be able to make a thorough rectal examination, because there is no other part where the nerve reflexes are greater or where more stomach, intestinal, prostatic or urethral symptoms originate. He describes various pathological conditions of the rectum as an aid to their diagnosis.

Medicolegal.—Abegglen emphasizes the importance of physicians understanding their legal rights and limitations. He says that physicians are often ignorant of their legal status until they are involved in a malpractice suit. Examining female patients without the presence of a nurse or another physician is a common source of trouble. Advertising, contract of physician with patient, notice to discontinue his services, contagious cases, privileged communication, refusal to take cases, are among the phases of forensic medicine that Abegglen deals with.

JOURNAL OF OSTEOPATHIC OPHTHALMOLOGY, RHINOLOGY AND OTOLARYNGOLOGY, BETHLEHEM, PA.

15: 1-48 (Oct., Nov., Dec.) 1932

*Autovacuum Treatment of Sinuitis. T. J. Ruddy, Los Angeles.—p. 5.
Simple Chronic Postoperative Rhinitis. F. J. Cohen, Wichita, Kan.—p. 10.
Optometric and Osteopathic Cooperation. J. H. Hook, Tacoma, Wash.—p. 15.
The Relation of Asthma to Nasal Pathology. P. J. Dodge, Providence, R. I.—p. 18.
Acute Productive Otitis Media Resulting in Deafness. C. P. Snyder, Philadelphia.—p. 21.
*Otomycosis. W. J. Siemens, Seattle.—p. 28.
Bouginage of the Eustachian Tubes in Selected Cases. L. S. Larimore, Kansas City, Mo.—p. 32.
A Modern Treatment of Otitis Media. E. E. Edmondson, Denver.—p. 36.
New Discoveries in Electrocoagulation of Tonsils. C. C. Reid, Denver.—p. 40.

Sinuitis.—Ruddy gives the principles of treatment of sinuitis which are outlined as follows: 1. *Restore ventilation and drainage.* For children, a few drops of metaphedrin inhalant (Abbott) instilled into the middle meatus will find its way to the affected ostium, shrink the mucosa and open the drainage outlet. For adults he recommends the use of epinephrin, or aqueous metaphedrin. 2. *Remove the purulent contents of the sinus.* Suction, favored by gravity, is preferable both in children and adults to puncture, or dilation and irrigation. 3. *Antagonize bacterial flora.* Metaphen, acriflavin, iodine, may be sprayed, dropped or installed into the sinus through the normal or artificial opening. Ruddy prefers a warm saline solution. 4. *Correction of systemic conditions.* General manipulative treatment, forcing fluids, and elimination of toxicosis. 5. *Elimination of correlated infection.* Removal of infected tonsils, teeth, adenoids, purulent otitis media, bronchiectasis, colonic infection are a part of the program.

Otomycosis.—In otomycosis, as in epidermophytosis (athlete's foot) salicylic acid is a valuable remedy. The treatment may require six months. Siemens recommends the following procedure: Cleanse the ear of debris and fill with a 1% solution of salicylic acid in 70% alcohol, leaving it for at least 5 minutes and instruct the patient to use this solution t. i. d. On the third day he syringes the ear with a 20% solution of hydrastis, repeating the process for at least two weeks, having the patient use the solution b. i. d. during the second week. If the patients do not tolerate the alcohol, the percentage may be reduced, or the following procedure substituted: Cleanse the canal with 1% solution of silver nitrate swabs, then paint the entire canal with 2% mercurochrome. Have the patient put in one-half dropper of 2% mercurochrome once a day for three days, then cleanse again with 1% silver nitrate and then instruct the patient to use 5 drops of cresatin daily for a week. See the patient once more during this time to clean out the debris. At the end of a week put the patient back on mercurochrome and continue until well, checking once a week for a few weeks and then less frequently for four to six months.

THE WESTERN OSTEOPATH, LOS ANGELES
27: 1-20 (Dec.) 1933

Systemic Causes of Rectal Diseases. J. M. Ogle, Tacoma, Wash. —p. 7.
Case Report. Diabetes. S. G. Bandeen, Louisville, Ky.—p. 8.
*Infra-Red in Therapy. M. H. Simmers, A.B., M.A., Los Angeles. —p. 9.
The Endocrines in Gynecology. Harriet L. Connor, Los Angeles. —p. 13.

Infra-Red.—Simmers describes the nature of infra-red radiation and the laws of physics that govern its behavior. Physics, he says has turned from the wave theory (all-pervading ether) to the corspuscular or quantum concept of radiation. Radiation then, consists of particles of energy traveling at a constant velocity. However, a moving particle may be assigned a wave-length which is equal to a constant (Planck-Einstein) divided by the mass times the velocity. ($WL=h/mv$). A quantum of energy hv from any source of light with a frequency v may pass to an electron giving it kinetic energy, $\frac{1}{2}mv^2$. Therefore: $hv=\frac{1}{2}mv^2$. One kind of light differs from another only in its wave length, frequency, and the energy of its quanta. Infra-red has a long wave length of between 7,500 and 40,000 Angstrom units (1 Angstrom unit $= 10^{-8}$ cm.). The human eye is capable of seeing light having a wave length of about 4,500 to 8,500 Angstrom units, so it is evident that infra-red is invisible. Infra-red is produced by a hot body and the energy radiated is geometrically proportional to the temperature of the generator. Furthermore, it has been found that generator temperatures below that of a carbon filament of an incandescent lamp (2,025 degrees) are incapable of producing much infra-red energy. Either directly or indirectly radiant energy brings about changes in the chemistry of the protoplasm according to Draper's "photo-chemical law". Simmers says that the mechanism by which infra-red brings about desirable therapeutic effects is not well understood, but increased temperature and circulation undoubtedly accelerate the physiological processes; enzymatic influences such as digestion, autolysis, synthesis, etc., are favorably affected. Cellular activity in general is augmented; ciliary action increases, leukocytosis is more vigorous, and nerve conduction is faster.

Current Medical Literature

The Role of Appendicitis in the Etiology of Female Sterility. By I. C. Rubin. *Monatsschr. f. Geburtsh. u. Gynak.*, 92:161 (Sept.) 1932. Abstracted in *Intern. Surg. Dig.*, 14: 360-361 (Dec.) 1932.—Repeated attacks of appendicitis produce, in many cases, a localized peritonitis, so that the open ends of the ovarian tubes can easily be sealed by adhesions; or there can be constriction or narrowing somewhere in the course of the tube producing a permanent disturbance of its function. Furthermore appendicitis exerts a harmful influence upon the ovaries. The author concludes that even the mildest attack of appendicitis, in a young female patient or in a woman in the childbearing age, should not be looked upon lightly, and that appendectomy should be carried out as soon as possible in the course of an attack of appendicitis.

Cancer of the Cervix Uteri. By H. S. Crossen, *Jour. Am. Med. Assn.* 99: 2149-2152 (Dec. 24) 1932.—Crossen claims that there is an unwarranted pessimism regarding the prognosis of cancer of the cervix. He claims that a goodly number of patients even with advanced carcinoma of the cervix are cured by the treatment of today, and that they are cured without the high primary mortality that was necessary for the cure of even early cases of former times. In the treatment here as elsewhere, he says, "fools rush in where angels fear to tread", and as a consequence many patients are being treated by physicians who "do not even comprehend, much less employ, the essentials of really effective treatment." There are only two remedies that have stood the test of time, and these are surgery and radiation according to Crossen. His plan of treatment is to give as large a dose of the hard rays of radium as the conditions permit without extending the soft-ray slough into the bladder or rectum. This is followed later by high voltage roentgen therapy. A number of cases are reported, some of which were diagnosed by microscopic examination as carcinoma as far back as 1922, which were treated by the above methods. They were all inoperative yet with the intensive radiation treatment the patients are living at the present time, free from cancer.

Reduction of Dislocated Shoulder: A New Method. By James W. Shumate, *Jour. Am. Med. Assn.* 99: 2181-2182 (Dec. 24) 1932.—The patient is given one-fourth grain of morphine sulphate to lessen the pain and reduce the muscular tension. A sling made of several thicknesses of three-inch gauze roller bandage is passed over the left shoulder and under the right arm of the operator and then about the semiflexed arm of the patient at the elbow. The hands of the operator are then placed against the chest wall of the patient in such a manner that the thumbs can palpate the head of the humerus. Traction is afforded by the operator leaning backward strongly and pushing with his hands against the chest wall of the patient while, with his thumbs, the head of the humerus is pushed into its socket. Care should be taken to keep the bandage short enough in order that sufficient traction may be exerted. Dr. Shumate of the U. S. Navy Medical Corps says that he has used this method successfully a number of times and he claims that it is less painful than the Kocher and other methods. Of course, he adds, in an elderly patient reduction should not be attempted without a roentgen diagnosis, in order to rule out possible fracture.

Oil Injection and Tumor Formation: Pathologic Changes Consequent to Injection of Oils Under Rectal Mucosa. By Curtis Rosser and Stuart A. Wallace. *Jour. Am. Med. Assn.* 99: 2167-2171 (Dec. 24) 1932.—Examination of a number of patients suffering from rectal strictures showed that biopsy specimens of rectal tissue contained oil which had been previously injected. The investigators believe that the injection of mineral oil, cottonseed oil and other oils for therapeutic purposes incited the development of fibrosis and tumor (eleoma) formation. Twelve to fifteen cases of unstrictured rectum with a history of injections showed lump formation. Twenty-four experimental injections into human rectal tissue were made. Six injections of olive oil did not produce a tumor or a proliferative reaction, but the oil was retained in the tissues as long as two months. Five injections of mineral oil constantly demonstrated tumor formation. From these and other experiments they believe that (1) the retention of injected oil and consequent fibrosis are, in the State of Texas, the chief etiologic agents responsible for stricture, and isolated lump formation in persons who have previously received injection; (2) olive oil produces no special tissue irritation, and is not a probable cause of oil tumor; (3) mineral oil did not fail to produce a tumor; (4) cottonseed oil apparently holds an intermediate position as a tumefacient, the fibrosis and oil retention being definite though less marked than the reaction from paraffin oil; (5) phenol plays no appreciable part in the production of eleomas.

Dangers of the Injections of Iodized Oils. Report of Council on Pharmacy and Chemistry, *Jour. Am. Med. Assn.*, 99: 1946-1947 (Dec. 3) 1932.—The use of iodized oils in radiography is fraught with many dangers. It should be emphasized that the injection of iodized oils is essentially a surgical procedure, introducing a foreign and possibly irritant body, and involving more or less risk, which should be weighed against the presumptive advantages, in comparison with the relative advantages and disadvantages of other measures. The following cautions should be especially borne in mind:

1. Oils that have aged and darkened beyond their original color should never be used.
2. Subarachnoid injections should be avoided, at least until all other means of diagnosis have been exhausted.
3. Intratracheal and intrapleural injections should be avoided in tuberculosis of the respiratory organs and also when restriction of the respiratory area would be contraindicated.
4. The injection pressure should be carefully controlled, so as not to lacerate the tissues.
5. Intra-uterine injections should be made under fluoroscopic observation.
6. Iodized oils should not be used for renal pyelography, except in the form of an emulsion; and the injection should be stopped if pain is felt.
7. Intravascular injections with iodized oils appear too dangerous; the use of emulsions for this purpose requires further study.

The Brain Problem and Blood Supply. Donaldson, Henry H. *Am. Jour. Psych.* 12: 197-214 (Sept.) 1932.—The functioning of the brain does not depend upon size, configuration, or weight, but upon the development of the vascular tree of the pia, according to a series of studies by Donaldson of the Wistar Institute of Anatomy and Biology, Philadelphia. His studies showed that the weight of the brains of notable men and that of a series of hospital brains were not unequal enough to account for the superior mentality of the notables. Likewise studies of size and configuration of different races and grades of mentality showed only a negligible variation. Another fact brought out was that the number of cortical cells in human brains is fixed within biological limits, as characteristic for the species, homo sapiens. This number is approximately two billion. He says no method of assorting brains on the basis of weight, proportions of parts or the weight or proportional areas of the cerebral cortex in the several lobes, serves to classify them according to intellectual capacity. "If, however, we change our mode of attack and approach from the side of the nutrition of the brain, the situation is altered. It appears that the vascular tree, represented by the vessels in the pia, is better developed in the intellectuals. This apparently means a better blood supply to the cortex, and it is unquestioned that such would contribute to a better performance." Donaldson also found that a variation in the composition of the blood modifies the activity of the neurons.

Without comment we add a few statements taken from A. T. Still's "Research and Practice" (page 65): "I want to insist on bringing to your attention the importance . . . of keeping the road from the heart to the brain open and in first class condition for the passage and delivery of pure arterial blood to the head. The free and unobstructed return of the venous blood is just as important. This law is exact and absolute and if you want perfect hearing, vision, smell, taste, feeling, you must have good nourishment, pure abundant arterial blood, nerve fluid, and an open way for venous return."

The scientific laboratory again proves the truth of Still's hypotheses.

Mucous Colitis—Spiesman, Manuel G.—*The Bulletin of Ambulant Proctology,* 6:73-79 (Dec.) 1932.

Mucous colitis is the product of a vicious circle which is caused by an inherited or acquired endocrine imbalance and aggravated by a putrefactive toxin-forming colon. Toxins pass through the colonic mucosa, then through the liver and finally into the circulation, producing changes in the glands of internal secretion, which in turn affect the vegetative nervous system producing a condition known as vagotonia. The resulting vagotonia produces an irritable bowel with excessive mucous secretion.

Therapy should be directed at all phases of the vicious circle, colon, liver, endocrines and vegetative nervous system.

If the results are not forthcoming, one should search carefully for associated pathology such as gall bladder disease, peptic ulcer, adhesions with chronic obstruction, carcinoma, arteriosclerosis of the mesentery, infected teeth, tonsils, anal crypts, sinuses, prostate, adnexa, etc.

The active treatment of mucous colitis consists of intestinal lavage with ascertained acid or alkaline solutions, automatic stabilizers, colloidal-kaolin, bland diet and indicated endocrines.

The Ketogenic Diet in the Treatment of Urinary Infections of Childhood. Helmholz, Henry F.—*The Journal of the American Medical Association, 99:1305-1309 (Oct. 15) 1932.*

A Ketogenic diet consists of the following: The patient is given about 50 calories for each kilogram of body weight and 1 gm. of protein for each kilogram. A child weighing 30 kg., begins with 30 gm. (120 calories) of protein, 70 gm. (280 calories) of carbohydrate and the remainder up to 1,500 calories of fat (120 gm.). The second day the carbohydrate is reduced to 50 gm., and the fat is correspondingly increased; the third day 30 gm. of carbohydrate is given, with a further increase in fat to match the calories. On the fourth day only 20 gm., on the fifth 15 gm., and on the sixth, 10 gm. is given. This is usually sufficient to insure a marked ketonuria with a hydrogen ion concentration well below 5.5. The urine should be sterile in five to ten days.

Especially in the treatment of urinary infections in children Helmholz has had marked success by using the ketogenic (acidosis producing) diet. A resulting increased acidity of the urine produces an increased bactericidal power with consequent clearing of the infection in the urinary tract. The bactericidal properties are not alone dependent on the increased acidity, but also upon the ketonurine. Furthermore, Helmholz shows that diacetic acid or its salts are concerned in the bactericidal activity.

In cases of urinary infection that present anatomical anomalies of the urinary tract, and have not responded to orthodox medical treatment, he reports good results with the ketogenic diet.

By use of the ketogenic diet the p^H of the urine can be reduced to 5.6 at which point it becomes bactericidal. Acidity and ketonuria in combination with substances not yet determined are the main factors. A ketonurine with a p^H of 5.5 is an excellent antiseptic, and ketonuria, according to this investigator should prove useful in preparing patients for surgical operations upon the urinary tract. Helmholz states that the clearing of an infection by means of diet does not necessarily mean a permanent cure. However, he says, in patients with urinary anomalies at the Mayo Clinic, no other type of treatment was successful.

Accuracy of Radium Dosage—*The British Medical Journal, 640-641 (Oct. 1) 1932.*

That the use of radium therapy is still largely empirical is the opinion expressed in an editorial. In its use to fight cancer, the writer says, the most successful users confess how little they know about what they really are doing. "They have found that if they put a certain arrangement of needles around a growth for a certain time there is a good chance that it will regress, and that if they use a certain filtration they will probably not burn the tissues; but they have only the roughest idea of the energy and quality of the radiation that is being applied at a given point. The intensity of any type of rays round a point source in a homogenous non-absorbing medium varies inversely as the square of the distance, and after allowance for the filtration effect of the container this simple rule has been found to work fairly well for radon seeds, which are the nearest practical approach to point sources. The problem when several point sources are used is more difficult, but if the source is assumed to be unscreened the distribution round each point can be worked out according to the square law and the distribution over the whole source obtained by integration. As arrangements of linear, annular, spherical, rectangular, and other geometrical forms are considered, the mathematics becomes progressively more complicated, and quite outside the range of anyone but a specialist, who must be in close touch with the practical radiotherapist, for otherwise he cannot know what questions want answering and in what forms he must express his results if they are to be of any practical use. . . . Work on these lines is urgently necessary at this critical history of radium therapy. If medical science is to avoid the calamity of a general disappointment in this invaluable weapon, the gulf between empiricism and scientific precision must be bridged as rapidly as possible."

Pain Below the Diaphragm of Cardiac Origin and Its Diagnosis Without Exploratory Operation. Bishop, Louis Faugeres.—*Medical Journal and Record* (June 15) 1932.

Dr. Bishop says that a serious heart disorder often masquerades as abdominal pain, and consequently a number of persons each year are subject to the hazards of an abnominal operation in search for the cause of pain referred to regions below the diaphragm. For that reason he subjects to electrocardiographic study every patient who has a severe pain in the chest or abdomen, the origin of which is not obvious. The purpose of his paper, he says, is to popularize the knowledge that pain referred to the stomach, may be really a sign of heart disease, and this may be proved by scientific technical methods. "Changes in the electricity of the heart often give the only positive information, that may prove the existence of coronary thrombosis and avert a dangerous operation."

Book Notices

DYNAMIC RETINOSCOPY. By Margaret Dobson. Pp. 55. Price, $2.50. Oxford University Press, 114 Fifth Ave., New York City, 1931.

This booklet of 55 pages in an inexpensive binding comes at $2.50. It is designed obviously for those who specialize in the eye and its refractive errors, and is devoted, as its title indicates, to the measurements of such deviations from normal sight.

Modern retinoscopy has added markedly to the accuracy of prescribing corrective lenses in the last few years. The technic of examination is complicated.

The little book deserves better binding and illustrating.

R. C. Mc.

HEALTH AND ITS MAINTENANCE. By Bertha Stuart Dyment, M.D., Medical Advisor of Women & Director of Physical Education for Women, Stanford University. Cloth. Pp. 472. Illustrated. Price $3.50. Stanford University Press, Stanford University, Calif., 1931.

An interesting and well written hygiene text for women. The physiology and anatomy of the body is covered sufficiently to make the subject of hygiene understandable. The chapters on reproduction and married life which are scientifically explained, should be of interest to all mothers of girls. Catherine Cox Miles gives a chapter on individual mental hygiene. She defines mental health "as the adjustment of human beings to the world and to each other with a maximum of effectiveness and happiness." Mrs. Eric Allen writes a chapter on "The Girl About to Marry." Taken as a whole this book is an excellent text for college women.

PRACTICAL OBSTETRICS. By P. Brooke Bland, M.D., Professor of Obstetrics, Jefferson Medical College, and Chief Obstetrician, Jefferson Medical College Hospital, Philadelphia. Assisted by Thaddeus L. Montgomery, M.D., Associate in Obstetrics, Jefferson Medical College. Cloth. Pp. 730. Illustrated with 516 engravings and 21 colored plates. Price $8. F. A. Davis Company, 1914 Cherry St., Philadelphia, 1932.

This book is intended to fill that need for a text between the large work and the manual. The discussions of obstetrical problems are inclusive in scope although the author gives freely of his methods and personal views. It is illustrated profusely with diagrams, engravings and colored plates. Recent metabolic, chemical and biologic tests for early pregnancy are clearly described and illustrated. Dr. Bland frankly admits that the etiology of the toxemias of pregnancy has not been discovered, although the adoption of antenatal care has lowered its incidence. For the "low reserve kidney" the "salt-poor diet" is recommended. Obstetrical jurisprudence forms an interesting and informative section. The volume is practical and fits Velpeaus' definition of obstetrics as an "ensemble of knowledge relative to the reproduction of the human species."

MINOR SURGERY. By Frederick Christopher, S.B., M.D., F.A.C.S., Assistant Professor of Surgery, Northwestern University Medical School, Chicago. With a foreword by Allen B. Kanavel, M.D., F.A.C.S., Professor of Surgery, Northwestern University Medical School. Second Edition, reset. Cloth. Pp. 998, with 687 illustrations. Price $10. W. B. Saunders Company, Philadelphia, 1932.

The second edition has not been enlarged in scope but a large amount of the material in the first edition has been rewritten. It contains up-to-date knowledge of local anesthesia in fractures, postoperative care, human bites, snakes bites, burns, electrical injuries, chest injuries, osteochondritis and venoclysis. The author recognizes "that sacro-iliac and sacrolumbar sprains are distinct injuries to the ligamentous apparatus in these regions" but the only treatment suggested is strapping, rest, diathermy, massage and manipulation. Specific reposition of the sprained structures is not mentioned. A section on the duties of the surgical intern gives helpful information about operating room technic, history taking, physical examinations, and many of the hospital procedures that he is called upon to do. Dr. Christopher has presented a book giving diagnosis and treatment of truly minor surgery, although the line of demarcation between major and minor surgery is often difficult to determine.

THE SPUTUM. By Randall Clifford, M.D., Assistant in Medicine, Harvard Medical School, formerly Associate Physician and Director of the Pulmonary Clinic, Massachusetts General Hospital. Cloth. Pp. 167 with 21 illustrations, and 7 color plates. Price $4. The Macmillan Company, 60 Fifth Ave., New York, 1932.

The author aims to revive the knowledge of the clinical significance of the varying characteristics and constituents of the sputum. The examination of the sputum is divided into two parts, macroscopic and microscopic. The macroscopic examination shows the amount, character, consistency, color, reaction, odor, and specific gravity, and such structures as caseous masses, Dittrich's plugs, Curschmann's spirals, etc. The microscopic examination reveals pathogenic and nonpathogenic organisms, the cells, animal and vegetable parasites, and so on. Methods of obtaining specimens, staining, and disinfection are given. It is at once an excellent book for the laboratory worker, and for the physician to evaluate his findings.

SYNOPSIS OF GYNECOLOGY. By Harry Sturgeon Crossen, M.D., Professor of Clinical Gynecology, Washington University Medical School, etc., and Robert James Crossen, M.D., Instructor in Clinical Gynecology and Obstetrics, Washington University School of Medicine. Cloth. Pp. 227, with 110 illustrations. Price $2.75. The C. V. Mosby Company, 3523 Pine Boulevard, St. Louis, 1932.

This small book is based on the well known textbook, "Diseases of Women," and it is intended for that class of students who need to know gynecology only in a general way. The authors are too modest in their statements as to the scope of its use for the whole field of pelvic disturbances is admirably covered, in this pocket edition, so that the practicing physician might study at odd moments the leading points of gynecologic examination, diagnosis and treatment. Backache may be caused by a sacroiliac joint lesion, they say, which in turn they consider to be produced by two causes: (a) Loose joint, and (b) arthritis. Relief may be obtained by limiting joint movement.

CLINICAL ENDOCRINOLOGY OF THE FEMALE. By Charles Mazer, M.D., F.A.C.S., Assistant Professor of Gynecology and Obstetrics, University of Pennsylvania, and Leopold Goldstein, M.D., Demonstrator of Obstetrics, Jefferson Medical College. Cloth. Pp. 519, with 117 illustrations, some in color. Price $6. W. B. Saunders, Philadelphia, 1932.

The subject of endocrinology has of late years received intensive study, and the interrelationship of function of the organs of internal secretion has been specially investigated. Mazer and Goldstein have confined their work particularly to the endocrine factors of the female generative organs. The use of endocrine extracts to influence menstrual disorders, functional sterility, pregnancy and parturition, the menopause, and endocrine obesity are discussed at length. The newer improved hormone tests for pregnancy are evaluated and described. The authors consider these tests "of distinct clinical value in the differential diagnosis between early pregnancy, uterine or ectopic, and pathologic conditions associated with amenorrhea or irregular uterine bleeding." An exhaustive list of references has been included.

E. S. G.

MEDICAL CLINICS OF NORTH AMERICA. Vol. 16, No. 1, July, 1932; No. 2, September, 1932, and No. 3, November, 1932. Issued serially, one number every other month. Per Clinic year, July, 1932, to May, 1933. Paper, Price, $12.00. Cloth, Price, $16.00. W. B. Saunders Co., West Washington Square, Philadelphia.

The July number is the Philadelphia number, an octavo of 290 pages with 75 illustrations. There are 26 contributions, most of them from the Pennsylvania Hospital and the hospital at the University of Pennsylvania.

The September number is the Chicago number. The first nine articles make up a symposium on diseases of the heart, and the other fourteen cover the usual diversified subjects. There are 271 pages and 48 illustrations.

November is the University of California number being made up of a series of lectures and demonstrations by Jonathan C. Meakins, M.D., Professor of Medicine at the McGill University Medical School at Montreal. There are reports of nine clinics, two clinic lectures and three clinic-pathologic conferences. There are 196 pages and 32 illustrations.

HANDBOOK OF THE VACCINE TREATMENT OF CHRONIC RHEUMATIC DISEASES. By H. Warrne Crowe, D.M., B.Ch. (Oxon.), M.R.C.S., L.R.C.P. Ed. 2. Flexible cloth. Pp. 79. Price 80 cents. Oxford University Press, 114 Fifth Ave., New York, 1932.

The author is enthusiastic about vaccine treatment of rheumatic diseases. Smaller doses are advised in this second than in the first edition.

MANUAL OF CLINICAL AND LABORATORY TECHNIC. By Hiram B. Weiss, M.D., Associate Professor of Medicine, University of Cincinnati, and Raphael Isaacs, M.D., Associate Professor of Medicine, University of Michigan. Fourth edition, reset. Cloth. Pp. 117 with diet chart. Price $1.50. W. B. Saunders, Philadelphia, 1932.

This little volume is a handy reference book of laboratory procedures. The essentials of all the common tests are given. Outline form is used whenever possible. There is also an excellent outline for a routine physical examination, and a table of the nutritive value of foods.

ALCOHOL AND MAN. Editor, Haven Emerson, M.D., De Lamar Institute of Public Health, Columbia University. Associate Editors, Henry A. Christian, M.D., Harvard University; Reid Hunt, M.D., Harvard University; Arthur Hunter, LL.D., F.A.S., New York Life Insurance Co.; Charles C. Lieb, M.D., Columbia University; Walter R. Miles, Ph.D., Yale University, and Ernest G. Stillman, M.D., Rockefeller Institute for Medical Research. Cloth. Pp. 451. Price, $3.50. The Macmillan Company, 66 Fifth Ave., New York City, 1932.

It is difficult to find today anyone, even a professional physician, who will weigh with an unprejudiced mind the evidence as to the effects of alcohol, and the beverage in which it is contained, upon the human physiology.

Not only is it difficult to find the mind which has not already prejudged the whole problem, but many investigators who have written at length have showed such obvious prejudice as to make their pronouncements undependable.

The recent publication of "Alcohol and Man," edited by Haven Emerson of Columbia University, and others, is therefore refreshingly worth while.

Every physician is frequently interrogated as to the effects of alcohol in its various forms and as to its value as a medicament. Not only does the scientific attainment of the authors of this work seem to promise unbiased and authentic information, but the method of presentation is clear and concise. The authors cover the subject without undue verbosity.

The chapter on the "Physiological Action of Alcohol" contains many interesting conclusions, and among them these: Alcohol affects the function of every body organ but its most important effect is upon the brain. Alcohol is rapidly absorbed and very slowly oxidized and excreted. In two and one-half hours all alcohol is taken up from the digestive tract.

Effects of alcohol are in direct proportion to the amount ingested.

The body can and does develop a tolerance to repeated doses of alcohol. The drunkard, upon a given dose of alcohol, will show less concentration of the drug in the blood stream than will the novice after the same dose.

Alcohol does not undergo any digestion in the intestinal tract. It is absorbed unchanged. It can be oxidized in not too great amount and transformed into work and heat. The body cannot in any form store up alcohol for further needs as it does protein, carbohydrates, or fats. It continues to produce its toxic effects until it can be oxidized.

The most important effects of alcohol are on the central nervous system. Alcohol is a depressant, in even the smallest doses, of both the motor and sensory systems. Alcohol tends to slow oxidation rates and therefore to produce a relative acidosis.

The acceleration of the heart, following alcoholic doses, is due to the depressant action on the brain inhibitory centers. While small doses stimulate a rise of blood pressure, a slight increase in respiration and appetite, large doses reverse these actions.

Alcohol is not a diuretic, not a galactagogue, not a true aphrodisiac. One is surprised at the statement that "on the whole, the illicit beverages of today seem to be less harmful than legally sold liquors of the pre-prohibition period because the ethyl alcohol they contain . . . is so often diluted with water. . . ."

Long discussion of the uses and abuses of alcohol as a therapeutic measure are also contained in succeeding chapters. The statement is made that alcohol does not find a particularly important place in modern therapeutics and that it is not prescribed so frequently today, particularly in the better hospitals.

R. C. Mc.

NUTRITION AND PHYSICAL FITNESS. By L. Jean Bogert, Ph.D. Cloth. Pp. 554. Price, $3.00. W. B. Saunders Company, West Washington Square, Philadelphia, 1931.

This book tells in nontechnical language the related facts of home economics, nutrition, physiology, chemistry and medicine. It gives consideration to the classification of food stuffs, the body's requirements from a nutritional standpoint, the normal processes of the body, and the practical dietetics of meal planning. This last subject is illustrated with well arranged charts and outlines. There are chapters on senescence, overweight and diet in disease.

Conventions and Meetings

Announcements

American Osteopathic Association, Milwaukee, July 24-28.

American Osteopathic Society of Ophthalmology and Otolaryngology, Milwaukee, July 20-22.

American Osteopathic Society of Proctology, Milwaukee, July 24-28.

American College of Osteopathic Surgeons, St. Joseph, Mo.

Arkansas state convention, Pine Bluff, June.

California state convention, Oakland.

District of Columbia convention, Washington, May.

Eastern states convention, New York City, March 25 and 26.

Florida state convention, St. Petersburg.

Illinois state convention, Springfield, March 1, 2.

Indiana state convention, Anderson.

Kansas state convention, Larned, October 5, 6.

Michigan state convention, Lansing, October.

Middle Atlantic states convention, Lynchburg, Va.

Minnesota state convention, St. Paul, May5 and 6.

Missouri state convention, Springfield, October.

Montana state convention, Glendive.

New England states convention, Boston, May 5 and 6.

New Mexico state convention, Albuquerque, September.

New York state convention, Syracuse, October.

Ohio state convention, Toledo, May 14-16.

Oklahoma state convention, Oklahoma City, April 11 and 12.

Tennessee state convention, Nashville, May.

Vermont state convention, St. Albans, October.

Virginia state convention, Richmond.

CALIFORNIA

East Bay

The speakers for the December meetings were as follows: Edward I. Kushner, "Paralysis"; Charles E. Peirce, "Vomiting"; B. D. Brainerd, "Right Iliac Pain"; W. J. Martin, "Epigastric Pain"; D. H. Wells, "General Abdominal Pain."

Glendale

Lucille Van Velzer, secretary-treasurer, reports that the December meetings had as speakers Robert D. Emery and Walter Elerath. The program chairmen were R. C. Virgil and B. S. Warner.

Hollywood Luncheon Club

At the November 29 meeting Cyrus J. Gaddis, Beverly Hills, spoke on "Bedside Methods of Treating Influenza and Pneumonia."

At the December 6 meeting Ralph M. Crane, spoke on "Pneumonia."

At the December 13 meeting Mrs. Walter V. Goodfellow, chairman of the California Federation of Women's Clubs, gave a recital.

Officers were elected at the January 3 meeting as follows: President, George V. Webster; vice president, F. Gautschi; secretary, Otto T. Grua; treasurer, Walter V. Goodfellow; general program chairmen, Ralph M. Crane, Cyrus J. Gaddis; attendance chairman, Arthur Wackerli; publicity chairman, Dr. Goodfellow; librarian, Gladys Wackerli.

Pasadena

The December 15 meeting was held in the nature of a Christmas party with a musical program and gifts for the children. Philip Rice, M.D., spoke on the "Personality Factor of the Patient."

Pasadena Luncheon Club

At the December 6 meeting Mr. J. W. Charleyville, City Manager of Pasadena, was the principal speaker.

Southern California Golf Association

A tournament and dinner was held at the Pasadena municipal golf course December 9 in honor to Charles H. Spencer on his birthday. Winners were Mr. Guy Hanson, a guest, and F. McGillis, W. V. Goodfellow, H. H. McGillis, and F. F. St. Clair.

DELAWARE

The officers of the Delaware Osteopathic Association are as follows: President, Arthur Patterson; vice president, Raymond Rickards; secretary-treasurer, T. W. Stiegler; publicity chairman, Roger M. Gregory, all of Wilmington.

IDAHO

Boise Valley

O. R. Meredith, Nampa, reports that a meeting was held at his offices, December 15. A discussion of four case histories took place, after which Dr. Meredith entertained the members in his home. A resolution was passed commending the subject matter of THE JOURNAL.

ILLINOIS

State Association

A meeting of the legislative committee was held at Ottawa, January 8. Officers, trustees and the chairman of the legislative committee were present and discussed legislation pending before the Assembly.

Chicago—City Association

At the January 5 meeting Will O. Medaris, Rockford, was the principal speaker.

Chicago—West Suburban

At the December 17 meeting, Clifford I. Groff, Milwaukee, was the principal speaker. Dr. Groff spoke on shoes and foot health.

INDIANA

St. Joseph Valley

A meeting was held at South Bend, December 14. John H. Styles, Kansas City, was the principal speaker. Officers were elected as follows: President, John M. Kauffman, Goshen; vice president, E. O. Peterson, La Porte; secretary-treasurer, R. B. Hout, Goshen.

The next meeting will be held at South Bend, January 18.

IOWA

Dallas County

The December 4 meeting was held at the offices of Laura Miller, Adel. Clinics were conducted by George B. Groves, Waterloo and W. P. McPheeters, Des Moines.

Tri-City

The January 4 meeting was held at Davenport. The clinic chairman, Lydia Tueckes Jordon, Davenport, gave a report of the clinic. It was decided to continue the clinic throughout January.

Tri-County

A meeting was held at the home of E. V. Chance, Winfield, December 8. H. L. Gordon, Brighton, spoke on "Bronchitis, Broncho-Pneumonia, and Pneumonia."

KANSAS

State Association

The Executive Board of the state association had a meeting on December 8. A number of standing committees were selected. A special committee appointed at the recent state convention to coöperate with the Wichita Osteopathic Society in raising funds for a preconvention publicity campaign to bring the 1934 A.O.A. convention to Wichita, was enlarged and now is composed of the following: Drs. Deason, Cohen, Donley, Gibson, Childs, and DeLong.

Arkansas Valley

The January 26 meeting at Larned had scheduled the following program: O. R. Muecke, Pratt, "Diagnosis of Abdominal and Pelvic Growths"; discussion by B. L. Gleason, Larned; C. F. Smith, Kinsley, "The Erythemas," discussion by H. H. Mettling, Larned.

Central Kansas

The December 15 meeting was held at Salina. Charles A. Povlovitch, of the Lakeside Hospital, Kansas City, was the principal speaker.

Southwest Kansas

V. A. Leopold, Garden City, secretary, reports that the December 13 meeting was held at the offices of F. C. Tabler, Garden City. C. S. McMurry, Utica, spoke on "Emergencies."

The January 10 meeting will be held with R. A. Leopold, Garden City.

Topeka

Genevra E. Leader reports that at the December meeting Mary E. Alspach read a paper on "Natural Immunity in Children." L. E. Thomas, president, presided.

At the January 5 meeting E. Jane Letts spoke on "Neurotic Personality."

Wichita

Officers were elected at the December 7 meeting as follows: President, G. B. Kesler; vice president, Sloan Nolen; secretary-treasurer, Raymond L. DeLong; membership, C. R. Lambert; professional education, E. N. Rhoads; hospitals, Q. W. Wilson; ethics and censorship, L. S. Adams; student recruiting, Elizabeth P. Savage; public health and education, H. E. Wells; industrial and institutional service, Carl G. Tillman; clinics, P. C. Schabinger; publicity, W. J. Deason; statistics, E. M. Burkhardt; legislation, H. C. Wallace.

MAINE

Central Maine

The December meeting was held at the home of Nora and William Clare Brown, Waterville. Olga Gross, Pittsfield, presented a case history. Elmer I. Whitney, Madison, led a discussion of a series of neurological cases.

MASSACHUSETTS

State Association

The Massachusetts Osteopathic Society held their annual meeting at Springfield, January 7. The program included the following speakers: Dale S. Atwood, St. Johnsbury, Vt., Frank M. Vaughan, Charles R. Wakeling, and E. Heath Clark, Boston; Paul G. Norris, Lynn.

Officers were elected as follows: President, Philip S. Taylor, Springfield; vice president, Kenneth Hiscoe, Boston; secretary, Hollister K. Olmstead, Boston; treasurer, Olive B. Williams, Worcester; chairman of executive committee, Dr. Wakeling.

Norfolk

Laurence M. Blanke, Dedham, secretary, reports that the December 14 meeting was held at Norwood. A. Leo Brett, M.D., F.A.C.S., Boston, presented a paper on "Spinal Arthritis." A discussion of the subject followed.

MICHIGAN

Western Michigan

The December 10 meeting was held at the home of J. C. and L. Verna Simons, Grand Rapids. A big basket was filled with gifts for the Grand Rapids *Herald* Santa Claus girls. Following a turkey dinner, Sam Landes, of Grand Rapids, gave a short talk on the early days of the practice of osteopathy in Michigan.

The January 19 meeting is scheduled to have reports of the Chicago College postgraduate lecture course by a number of Michigan doctors.

MISSOURI

Buchanan County—St. Joseph

At the January 4 meeting T. H. Hedgpeth spoke on "Pride in One's Profession."

Central Missouri

The December 15 meeting was held at Fulton in the office of D. A. Squires. Quintus L. Drennan, St. Louis, spoke on "Orthopedic Surgery."

The January 19 meeting will be held at Mexico.

Northwest Missouri

The December 8 meeting was held at King City. The program and arrangements were in charge of R. H. and Mrs. Hurst. Following a turkey dinner, musical numbers were given by Mrs. John Pound and Mr. Oscar Whitehouse. Papers presented included:

Foy Trimble, St. Joseph, "Basal Metabolism"; Charles Karibo, St. Joseph, "Latest Developments in the Use of X-Ray"; George S. Gardner, Maryville, "Osteopathic Principles as Proven by the Laboratory." Members of neighboring societies attended this meeting.

Ozark Association

The December 15 meeting was held in the offices of T. M. King, Springfield. Papers were given as follows:

William L. Wetzel, Springfield, "Glucose and Normal Saline in Postoperative Shock"; Floyd E. Nelson, Cameron, "Varicose Veins and Ulcers."

At the January 4 meeting Mr. Henry Awbrey spoke on "Good Citizenship."

Southeast Missouri

H. B. Newlin, Farmington, reports that the December 11 and January 8 meetings were held at the offices of H. E. Reuber, Sikeston. The officers of the Southeast Association are as follows: President, F. W. Zuspan, Flat River; vice president, Marguerite M. Fuller, Cape Girardeau; secretary, Dr. Newlin; treasurer, L. M. Stanfield, Farmington.

NEW JERSEY

State Association

Chester D. Losee, East Orange, secretary, announced that the January 14 meeting will be held in form of a foot clinic.

NEW YORK

Central New York

A dinner meeting was held at the Yahnundasis Golf Club December 14. A round table discussion of cases took place.

Hudson River

The January 7 meeting was held at the home of John L. and Mrs. Brookman, Albany.

New York City

The following program was scheduled for the January 19 meeting: Edgar O. Holden, Philadelphia, "Meeting the Demands of Life Between the Ages of Eighteen and Twenty-five"; discussion by Thomas R. Thorburn and Arvid E. Valdane, New York City; Walter A. Merkley, Brooklyn, "Concerning Dr. Locke and His Technic."

OHIO

Akron District

At the January 4 meeting W. M. Pearson, Cleveland, conducted a class in laboratory work interpretation, and classification of kidney diseases. Later Dr. Pearson spoke on "Comparative Therapeutics and Osteopathy in the Treatment of Acute Diseases."

Central Ohio

A meeting was held at Columbus, December 8. John J. Coan, Cleveland, spoke on "Acute Contagious Diseases," discussion by L. E. McCurdy, Columbus, and Charles F. Rauch, Logan. L. A. Bumstead, of the Delaware Springs Sanitarium, also spoke.

At the January 5 meeting at Columbus, Mr. Charles M. Newcomb, humorist and after-dinner speaker, spoke on "Things I Am Thankful for During the Depression."

Cincinnati

At the December 8 meeting E. R. Booth spoke on "The Early Days of Osteopathy."

At the January 7 meeting W. M. Pearson, Cleveland, spoke on certain phases of biochemistry as related to the acute diseases.

Cleveland District

At the December 10 meeting a collection was taken for the benefit of the Cleveland *News* Toyshop.

At the January 9 meeting W. M. Pearson spoke on "Acute Infectious Diseases."

Dayton District

The December 14 meeting had James A. Stinson, Chicago, as speaker. His subject was "Athletic Injuries and Their Treatment."

The following program was scheduled for January 11: R. A. VanVleck, Bellefontaine, "General Osteopathic Practice From the Family Physician's Viewpoint"; Chauncey Lawrance, Springfield, "The Chronic Abdomen; Its Diagnosis and Treatment"; E. E. Ruby, Troy, "Colonic and Physical Therapy"; E. H. Cosner, Dayton, "Constipation."

Toledo District

The December 14 meeting was held at Fremont. The principal speakers were: N. J. Musson, Fremont; Forrest F. Yoder, Bellevue; C. A. Hess, Fostoria, and B. C. Currence, Tiffin. M. A. Pruden, Fostoria, was in charge of the program.

W. M. Pearson, Cleveland, addressed the January 3 meeting.

OKLAHOMA

State Association

The annual convention of the Oklahoma Osteopathic Association will be held at Oklahoma City April 11 and 12 at the Skirvin Hotel. O. L. Jordon, Oklahoma City, is chairman of arrangements committee, of which Fred C. Stauber and C. E. Dailey, Oklahoma City are members. The program arrangements will be in charge of Paul Price, Oklahoma City, and W. A. Laird, Ponca City.

Eastern Oklahoma

The regular monthly meeting was held with C. E. Dickey, Eufaula, December 30. The visiting members were welcomed by Mayor R. B. Buford. H. G. Swanson, Dean of Kirksville College, addressed the meeting. Several prospective students were present.

Kay County

The regular dinner meeting was held at the Larkin Hotel, Blackwell, December 8. The next meeting was scheduled for Ponca City January 5.

OREGON

State Association

The mid-year meeting of the Oregon Osteopathic Association was held January 5 at the Benson Hotel, Portland. The program included the following speakers: Ruth L. Eaton, Oregon City; A. P. Howells, Albany, and I. J. Neher, Portland.

PENNSYLVANIA

Cambria County

At the December 30 luncheon-meeting at Johnstown, local students who are enrolled at the Philadelphia College, were guests.

Lehigh Valley

A dinner meeting was held at Easton December 15. F. A. DeMois, Allentown, presented a paper on various eye conditions.

The next meeting will be held at Allentown.

Philadelphia County

Francois D'Eliscu reports that at the January 19 meeting, Ray F. English, Newark, N. J., was scheduled to speak on "Osteopathic Diagnosis."

RHODE ISLAND

State Association

Mary C. Mowry, Providence, secretary, reports that the December 8 meeting was held at the Rhode Island Osteopathic Hospital, Cranston. Gervase C. Flick, Boston, lectured on "X-Ray Diagnosis of Lower Lumbar Conditions."

TEXAS

Dallas

At the December 8 meeting Thomas L. Ray, Fort Worth, spoke on "Sacro-Iliac Lesion" and J. D. Hathorn, Corsicana, spoke on "Pyelitis." The next meeting will be held January 22.

Lower Rio Grande Valley

Officers were elected at the December 17 meeting at Mercedes as follows: President, Jacobine Kruse, San Benito; vice president, Charles H. Chandler, Harlingen; secretary, Amorette Bledsoe, Brownsville (reelected).

WASHINGTON

Pierce County

C. B. Utterback, Tacoma, secretary, reports that a special meeting was held in the offices of the Fidelity Osteopathic Clinical Group December 12 to discuss legislative matters. A few moments of silence were observed in reverence of the Old Doctor as it was the fifteenth anniversary of his death.

WEST VIRGINIA

Ohio Valley

A meeting was held at Point Pleasant, W. Va., December 8. The principal speakers were Lawrence M. Bell and J. E. Wiemers, Marietta, Ohio.

A joint meeting of the Ohio Valley and Monongahela Valley societies was held in December at Waynesburg, Pa. Harry M. Goehring, Pittsburgh, Pa., spoke on diagnosis. Other speakers included the following: L. A. Orrison, Waynesburg; Mary Hoge Hawkins, Waynesburg; L. S. Irwin, Washington, Pa.; Harold J. Dorrance, Pittsburgh; Preston B. Gandy, Clarksburg, W. Va., and F. D. Dornbush, Steubenville, Ohio.

An Island for Sale!

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FOR YOU'RE ONE OF US—one of this professional family, with its countless interrelations and, wearied or not, you *wouldn't* willingly renounce one of your responsibilities. Consciously or unconsciously you desire to be of real service to your own generation and to lighten the inevitable load of the generations to come.

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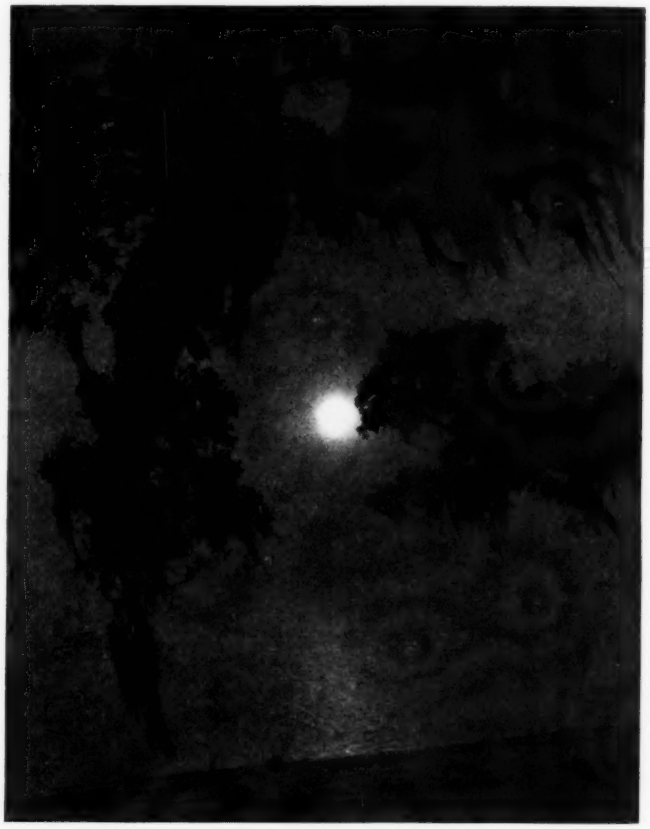

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